

# **EXHIBIT 8**

PTO/SB/05 (04-04)

Approved for use through 07/31/2006. OMB 0651-0032

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032305

18351 U.S. PTO

# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. 1.53(b))

Attorney Docket No.

R Malhotra 7 (LCNT/126709)

First Inventor

Richa Malhotra

Title

METHOD AND APPARATUS FOR FLOW CONTROL  
OF DATA IN A NETWORK

Express Mail Label No.

EV566249619US

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.  
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 14]  
(preferred arrangement set forth below)
  - Descriptive title of the Invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
4. ☒ Formal Drawing(s) (35 U.S.C. 113) [Total Sheets 4]
5. Oath or Declaration [Total Sheets 2]
  - a. ☒ Newly executed (original or copy)
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(for a continuation/divisional with Box 18 completed)
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Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76

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7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
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(Should be specifically itemized)
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17. ☐ Other:

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☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP)

of prior application No: \_\_\_\_ / \_\_\_\_

Prior application information: Examiner \_\_\_\_

Art Unit: \_\_\_\_

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## 19. CORRESPONDENCE ADDRESS

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Name

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732-530-9404

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732-530-9808

Name (Print/Type)

Eamon J. Wall

Registration No. (Attorney/Agent)

39,414

Signature

EJ Wall

Date

3/23/05

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<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Application Number	Unknown
		Filing Date	Herewith
		First Named Inventor	Malhotra
		Examiner Name	Unknown
		Art Unit	Unknown
<b>TOTAL AMOUNT OF PAYMENT (\$)</b> <b>1,040</b>		Attorney Docket No.	R Malhotra 7 (LCNT/126709)

**METHOD OF PAYMENT (check all that apply)**

- ☐ Check   ☐ Credit Card   ☐ Money Order   ☐ None   ☐ Other (please identify) : \_\_\_\_\_  
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**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee(\$)	Fee(\$)	Small Entity Fee(\$)	Fee(\$)	Small Entity Fee(\$)	
Utility	300	150	500	250	200	100	1,000
Design	200	100	100	50	130	65	—
Plant	200	100	300	150	160	80	—
Reissue	300	150	500	250	600	300	—
Provisional	200	100	0	0	0	0	—

**2. EXCESS CLAIM FEES**

				Small Entity	
Fee Description				Fee (\$)	Fee (\$)
Each claim over 20 (including Reissues)				50	25
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Multiple dependent claims				360	180
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19	-20 or HP= 0	x 50 = 0	0	Fee (\$)	Fee Paid (\$)
HP = highest number of total claims paid for, if greater than 20.				360	0
Indep. Claims	Extra Claims	Fee(\$)	Fee Paid (\$)		
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**3. APPLICATION SIZE FEE**

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Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge) : Assignment recordation

**Fees Paid (\$)**

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**SUBMITTED BY**

Signature		Registration No. (Attorney/Agent)	39,414	Telephone	732-530-9404
Name (Print/Type)	EAMON J. WALL		Date	3/25/05	

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## **METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK**

### **FIELD OF THE INVENTION**

5           The present invention relates to computer networks such as LANs (local area networks), and more particularly to an intelligent method for reducing network congestion via using messages propagated upstream from congestion related nodes.

### **DESCRIPTION OF THE BACKGROUND ART**

10           In networks, data is typically exchanged between communicating devices in the form of "frames." Frames include a source MAC address and a destination MAC address. A MAC address uniquely identifies a network device in a "Layer 2" communication protocol used in Ethernet and Token  
15   Ring LANs. A routing device (i.e., switch, bridge, or the like) connected between communicating devices uses the destination MAC address in an incoming frame generated by a source device and forwards the frame to the appropriate destination device.

          Flow control of such frame-based data in a network using Ethernet  
20   protocol is achieved by either dropping packets or with a congestion avoidance mechanism such as back-pressure or pause. Either of these mechanisms is executed in a hop-by-hop method. A node in the network experiencing the congestion condition reacts in a manner such that a node that is upstream of the congested node receives a back-pressure or pause  
25   message that stops all transmission towards such congested node. Unfortunately, this type of messaging can propagate further in the network. That is, a distinction cannot be made among the different data flows between various nodes as to which flow is the cause of the congestion. Additionally, the back-pressure method may also propagate in such a way as to throttle  
30   traffic which might not be passing the congested node. Accordingly, Ethernet is inherently incapable of differentiating between problematic and acceptable traffic flows or streams in a network. In other words, Ethernet has no selective flow mechanism or capabilities.

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This condition is further aggravated when Ethernet bridges are used to connect nodes (via pathways) because Ethernet bridges learn every MAC address that is passing therethrough. The Ethernet bridge is not capable of determining whether such MAC address resides one hop away or several hops away in another portion of the network either of which may or may not be contributing to part of the congestion pathways

## **SUMMARY OF THE INVENTION**

These and other deficiencies of the prior art are addressed by the present invention of a method of controlling data flow in a network. The method includes the steps of detecting a congestion condition in the network, sending a congestion message to one or more nodes upstream of the congestion condition, learning address information of one or more nodes pertaining to the congestion condition, broadcasting or advertising to other nodes the learned information such as MAC addresses pertaining to the congestion condition and controlling a flow of data based on the learned address information. The learning and advertising method helps distinguish problematic congestion causing flows from the non-congestion causing flows, thus leading to intelligent differentiation in flow control.

In one embodiment of the invention, the learned address information is the MAC address of a destination node to which the data is flowing towards. In another embodiment, the learned address information is the MAC address of a source node generating the data flow. In another embodiment, the learned address information is a MAC address pair of the nodes between which the data is flowing. The method may be practiced in for example a computer readable medium containing a program which, when executed, performs an operation of controlling data flow in the prescribed manner. As a result, data flows causing congestion are differentiated from data flows that are not causing congestion allowing improved performance of Ethernet-based networks.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

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The teachings of the present invention can be readily understood by considering the following detailed description in conjunction with the accompanying drawings, in which:

FIG. 1 depicts an exemplary network operating in accordance with the method of the subject invention;

FIG. 2 depicts a logical topology of the exemplary network of FIG. 1; and

FIG. 3 depicts a flow chart for managing data flow in accordance with the subject invention; and

FIG. 4 depicts an apparatus operating in accordance with the subject invention.

To facilitate understanding, identical reference numerals have been used, where possible, to designate identical elements that are common to the figures.

## **DETAILED DESCRIPTION**

The invention will be described within the context of improving data flow in Ethernet based networks and, more specifically, to Ethernet based networks having the particular ability to manage flow control based on the differentiation of data flows by virtue of their MAC addresses. It will be appreciated by those skilled in the art that the invention is applicable to other network topologies and data flow methodologies where the management of distinct data flows is desirable.

Generally speaking, a method according to one embodiment of the invention for controlling data flow in a network includes detecting a congestion condition in the network, sending a congestion message to one or more nodes upstream of the congestion condition, learning address information of one or more end nodes or stations pertaining to the congestion condition sending another congestion message containing these learned MAC addresses and ( the nodes receiving this congestion message with the MAC addresses)controlling a flow of data of the learned address information is the congestion message. The learned address information is the MAC address of a destination node to which the data is flowing towards or is a MAC address pair of the nodes between which the data is flowing.

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FIG. 1 shows an example of a typical network configuration 100.

Network devices 106 are connected by physical medium (represented as a plurality of links 104<sub>N</sub>) such as personal computers, servers, terminals for data entry and display, printers and the like, to a plurality of nodes 102<sub>N</sub>. The nodes 102<sub>N</sub> represent specific network devices such as bridges, switches, routers, and hubs/repeaters (not shown). Data generated by end users of the network devices 106 travels across the network 100 to other end users via the physical medium and the nodes, which perform the processing necessary to ensure the data arrives in a usable condition to the proper recipient. For example, information passing from a first network device 106<sub>1</sub> connected to a second node 102<sub>2</sub> passes information to a second network device 106<sub>2</sub> which is connected to a fourth node 102<sub>4</sub>. Interconnection between first node 102<sub>2</sub> and fourth node 102<sub>4</sub> is accomplished, for example and in one potential pathway, through a third node 102<sub>3</sub> and interconnecting links 104<sub>2-3</sub> and 104<sub>3-4</sub>.

In general, bridges and switches (at any one or all of the network nodes 102<sub>n</sub>) transfer data frames, by filtering, flooding or forwarding the data frames. Filtering refers to dropping or discarding a received data frame when processing the MAC addresses associated with such data frames according to a set of rules. Flooding refers to forwarding a data frame to all ports of a network device having a given destination address, when the address has not been previously learned (and thus unrecognized). Forwarding refers to sending an incoming data frame having a learned MAC address to the corresponding known port or ports of the next (or formal destination) node.

As noted above, MAC addresses uniquely identify a network device in a Layer 2 communication protocol. The Layer 2 protocol may be viewed as occupying a level in a "protocol stack" of established, commonly-used communication standards, beginning with a Layer 1, representing the physical medium used to transfer data, followed by Layer 2, then by a Layer 3 and 4 and so on. Generally speaking, the layers above Layer 2 handle exchanges between network entities where the exchanges require more processing than at the lower levels.

As is known and understood, Ethernet bridges cannot operate within loop environments (such as the network 100 as shown in FIG. 1). Therefore,

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a spanning tree protocol (well known in the art and disclosed in the Ethernet Protocol Communications Standard 802.1D) is used to create a representative environment that is free of loops. Such a representative environment is shown in FIG. 2 as topology 200. Specifically, the plurality of nodes  $102_N$  are linearly connected with the distinction of a break 108 (see FIG. 1) in network 100 being created to establish the new topology. In such a new topology, interconnecting links  $104_N$  continue to connect the plurality of nodes  $102_N$  with the exception of the link  $104_{5-1}$  that would otherwise join a fifth node  $102_5$  and the first node  $102_1$ . Network devices 106 are further represented as stations. In this particular example, and for sake of clarity, two such network devices or stations 106 are represented by call letters at each of the plurality of nodes  $102_N$ . Specifically, first node  $102_1$  is connected to stations A and B. Second node  $102_2$  is connected to stations C and D. Third node  $102_3$  is connected to stations E and F. Fourth node  $102_4$  is connected to stations G and H. Fifth node  $102_5$  is connected to stations I and J.

In a representative example, consider that data traffic is moving from one station to another station and sharing the nodes and interconnecting links with other data traffic moving to other stations along the same nodes and links. Exemplary traffic rates are for example:

Traffic AG = 50 Mbps

Traffic BC = 50 Mbps

Traffic CG = 40 Mbps

Traffic DE = 10 Mbps

Traffic FG = 30 Mbps

If each of the links  $104_N$  has a link capacity of 100 Mbps, then it is realized that third link  $104_{3-4}$  is congested as the total traffic attempting to travel over this link is 100 Mbps with the final destination being the network device 106 located at station G. In other words, and with specific reference to the presented example, it is observed that traffic moving from station A to station G does so at a rate of 50 Mbps. Traffic moving from station C to station G travels at a rate of 40 Mbps, and traffic moving from station F to station G travels at a rate of 30 Mbps for a total of 120 Mbps which is in excess of the link capacity of third link  $104_{3-4}$ .



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In accordance with an embodiment of the invention, the third node 102<sub>3</sub> will detect this congestion condition and will have to limit or otherwise control the amount of data traveling over the third link 104<sub>3-4</sub>. That is, the third node 102<sub>3</sub> (or other similar node detecting a congestion condition) will send a congestion message upstream (back towards nodes from which data is being sent). Based on information contained within the congestion message sent upstream, the upstream nodes can control future downstream traffic that is causing the congestion rather than the node detecting the congestion dropping packets from traffic flows coming into the node, which disrupts all communication.

One option for the congested node is to drop excess packets for the complete aggregate leading to unfair division in bandwidth. It is known for the Ethernet that in this case stations/nodes closest to the congested node will grab most of the capacity. Other congestion control schemes such as back-pressure/pause frames will again act on the aggregate and propagate further into the network. This will end up disrupting traffic for flows which are not causing congestion, for example traffic from BtoC and traffic from DtoE. According to the invention, the congestion message will be received by nodes 102<sub>1</sub> and 102<sub>2</sub>. 102<sub>2</sub> will control its traffic to G and 102<sub>1</sub> its traffic from A to G, but not from B to C. Thus with the help of the message an intelligent distinction can be made and unnecessary penalizing of traffic from BtoC can be avoided. This also leads to better utilization of network resources.

Specifically, a method of performing congestion control in a network is depicted in FIG. 3 as a series of method steps 300. The method starts at step 302 and proceeds to step 304 where upon detection of a congestion condition at a particular node, said particular node creates a congestion message.

Referring to box 303, the congestion condition may be determined by noting a queue maximum occupancy being exceeding, by noting that monitored input data to the node exceeds the output link capability of the node, by noting that a queue data drop rate exceeds a threshold level in terms of an amount of data dropped, an amount of data dropped over time, a number of data drops over time or some other congestion indicative condition.

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Referring to box 305, a congestion message may include any of the MAC address of the congestion detection node, the MAC address(es) of nodes beyond (i.e., downstream from) the congestion node, information useful in affecting a congestions reduction (e.g., alternate paths, nodes and the like). Additionally, types of traffic flows may be indicated such that prioritization of rerouted flows may be provided.

In one embodiment of the invention the a congestion message comprises a header portion and a payload portion, The payload portion comprises a destination MAC addresses or pair of MAC addresses (e.g., a source/destination pair). The header portion comprises a type of message indicator (i.e., congestion message type), such that a receiving node may properly process the congestion indication information within the payload portion. The header or payload may optionally include information indicative of an appropriate means for resolving the congestion. Once the congestion message is created, the node detecting the congestion condition sends the congestion message to one or more upstream nodes at step 306.

At step 308, one or more upstream nodes receives the congestion condition message and learns information about the congestion. Referring to box 307, the learning may comprise determining the destination address of packets passing through the congestion indicating node, the Ethernet MAC learning process, the address(es) of nodes in a congestion queue and/or other learning techniques. The upstream node receiving the congestion message then compares the addresses mentioned in the congestion message to those it has learnt on its ports. Alternatively more intelligent schemes could be applied, for example keeping track of both source and destination pairs. If the addresses indicated in the congestion message are the same as some addresses learnt on its output ports or conforms to the traffic flows it sends towards the congested node, it can rate limit this flows.

In one embodiment the invention, the congestion indicative information comprises the MAC address(es) which are creating the excessive data flow and, hence, the congestion condition. In the particular example discussed above with respect to FIGS. 1-2, the congestion information comprises, illustratively, the MAC address for the network device 106 existing at station G. In an alternate embodiment of the invention, the information may be the

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source and destination address pair causing the problem flow. For example, and in the example discussed above, the source and destination address pair information for the network devices 106 contained at station pairs A,G and C,G. Accordingly, when third node 1023 detects this congestion condition, it will send the MAC address information for traffic from station A to station G and from station C to station G.

Once the congestion condition address information is learned, the method moves to step 310 where control of the downstream traffic causing the congestion condition occurs. Specifically, the traffic flows indicated above are controlled or otherwise limited because their specific address information (which was learned through the congestion message) is identified as the source of the congestion. Traffic flows will be limited or otherwise controlled so the link capacity at third link 104<sub>3-4</sub> is no longer exceeded. The method ends at step 312.

Generally speaking, an upstream node receiving the message interprets it as a congestion message by, illustratively, a type identifier in a header or payload portion of a packet structure associated with the message. From the payload of the message, the upstream node learns the addresses/pairs of the MAC addresses causing the congestion situation. The upstream node then takes action to control/reduce the congestion (or communicates with a controlling entity such as a management software layer to take actions to control/reduce the congestion).

The controlling action comprises, illustratively, dropping all or some percentage of packets destined for the MAC addresses mentioned in the congestion message (or the source destination pair). The controlling action may also be modified according to a service level agreement (SLA) associated with the congested node(s). For example, flow control may be implemented in a manner that favors certain flows such that the SLA associated with those favored flows is honored (e.g., not drop packets from favored flows). The preferential treatment of some flows may be indicated by, for example, notifying the congested node that the upstream node or controlling entity did act on its request.

In a first example, if the congestion message contains only a destination address (e.g., the address of a end-node/end-station G), then the

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upstream node or controlling entity may drop all or a certain percentage of packets destined for node G.

In a second example, if the congestion message contains an source/destination address pair (e.g., the address of nodes AB), then the upstream node or controlling entity may drop all or a certain percentage of packets sourced from node A that are destined for node B. If the source address is not known, then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node B.

Figure 4 details the internal circuitry of exemplary hardware that is used to execute the above-identified method 300 of FIG. 3 in the manner described to control the flow of data in a network in accordance with the subject invention. The hardware 424 is contained within or is otherwise part of each of the devices making up the nodes 102n (switches, bridges, routers and the like) as a computer or other type of processing device inside network 100. Specifically, the computing device 424 comprises at least one central processing unit (CPU) 430 connected to support circuits 434 and memory 436. The CPU 430 may comprise one or more conventionally available microprocessors. The support circuits 434 are well known circuits that comprise power supplies, clocks, input/output interface circuitry and the like. These components execute the necessary processing to move data (according to network protocol and the flow control methods of the subject invention) between an input port 410 and output port 420 of the device 102n.

Memory 436 may comprise random access memory, read only memory, removable disk memory, flash memory, and various combinations of these types of memory. The memory 436 is sometimes referred to as main memory and may in part be used as cache memory or buffer memory. The memory 436 stores various software packages (i.e., packages 432 and 438) that dictate the steps required to control data flow in accordance with method described above thus forming a special purpose machine for doing same when running said software packages. Alternately the software packages may be a corresponding ASIC.

Accordingly, a novel solution to network congestion is identified. By advertising the MAC addresses of data flows that are in excess of network or link capacity and subsequently controlling said traffic from points that are

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upstream of the identified congestion points, Ethernet traffic is now improved. Specifically, Ethernet traffic is now capable of making a distinction between different data flows and managing them according to their MAC address. Since this messaging format runs within existing Ethernet protocol, there is no  
5 additional hardware or complex messaging software that must be incorporated into an existing network to accomplish this type of traffic flow control.

Although various embodiments which incorporate the teachings of the present invention have been shown and described in detail herein, those  
10 skilled in the art can readily devise many other varied embodiments that still incorporate these teachings.

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WHAT IS CLAIMED IS:

1. Method for data flow control in a network, comprising:  
detecting a congestion condition in the network; and  
5 sending a congestion message to one or more nodes upstream of the congestion condition;  
said congestion message adapted to enable an upstream node to learn address information of at least one node associated with the congestion condition to enable thereby the control of data flows in a manner tending to  
10 reduce the congestion condition.
2. The method of claim 1, wherein:  
the congestion condition is determined when a queue maximum occupancy is exceeded.
- 15 3. The method of claim 1, wherein:  
the congestion condition is determined when data received by a node exceeds an output link capability of the node.
- 20 4. The method of claim 1, wherein:  
the congestion condition is determined when a queue data drop rate exceeds a threshold level.
- 25 5. The method of claim 4, wherein:  
the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.
- 30 6. The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.
7. The method of claim 6, wherein:



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the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.

8. The method of claim 6, wherein:

5 the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.

9. The method of claim 1, wherein:

10 at least one node associated with the congestion condition comprises one of an end-node and an end-stations.

10. The method of claim 1, wherein the learned address information is the MAC address of a destination node.

15 11. The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.

20 12. The method of claim 1, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination node address.

25 13. The method of claim 1, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination node addresses.

14. The method of claim 13, wherein:

30 in response to the source address node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination node address.

16. The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said flow to be controlled.

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17. The method of claim 16, further comprising:  
receiving an indication of an inability to drop packets in accordance with the  
Service Level Agreement.

5

18. A computer readable medium containing a program which, when  
executed, performs an operation of controlling data flow in a network  
comprising:

10 detecting a congestion condition in the network; and  
sending a congestion message to one or more nodes upstream of the  
congestion condition;  
said congestion message adapted to enable an upstream node to  
learn address information of at least one node associated with the congestion  
condition to enable thereby the control of data flows in a manner tending to  
15 reduce the congestion condition.

15

19. Apparatus for controlling flow of data in a network comprising:

means for detecting a congestion condition in the network; and  
means for sending a congestion message to one or more nodes  
20 upstream of the congestion condition;  
said congestion message adapted to enable an upstream node to  
learn address information of at least one node associated with the congestion  
condition to enable thereby the control of data flows in a manner tending to  
reduce the congestion condition.

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**METHOD AND APPARATUS FOR FLOW CONTROL OF DATA  
IN A NETWORK**

**ABSTRACT**

5

A method of controlling data flow in a network includes detecting a congestion condition in the network, sending a congestion message to one or more nodes upstream of the congestion condition, learning address information of one or more nodes pertaining to the congestion condition, 10 sending another congestion message containing these learned MAC addresses and, via the nodes receiving the congestion message with the MAC addresses, controlling a flow of data associated with the learned address information from the congestion message. The learned address information may be the MAC address of a destination node to which the data 15 is flowing towards or a MAC address pair of the nodes between which the data is flowing.

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 "Method and Apparatus for Flow Control of Data in a Network"

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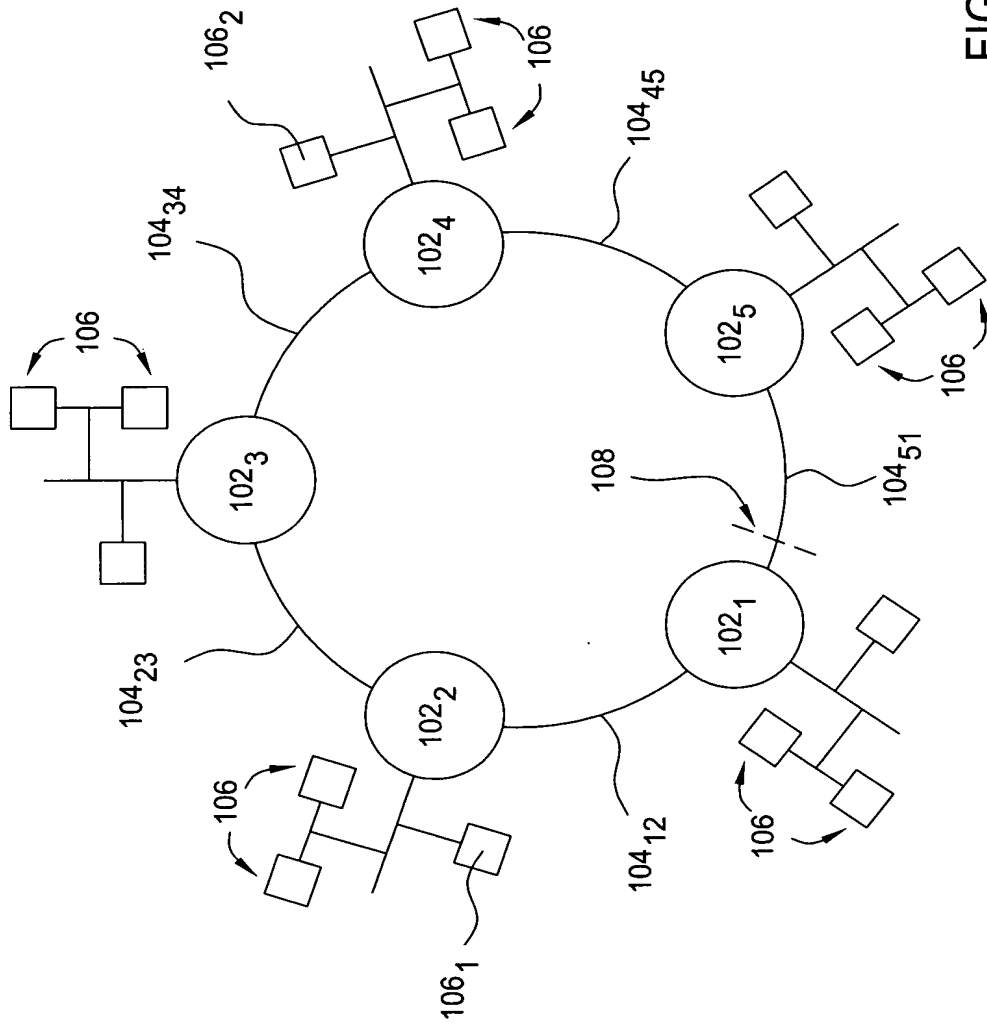


FIG. 1

100

200

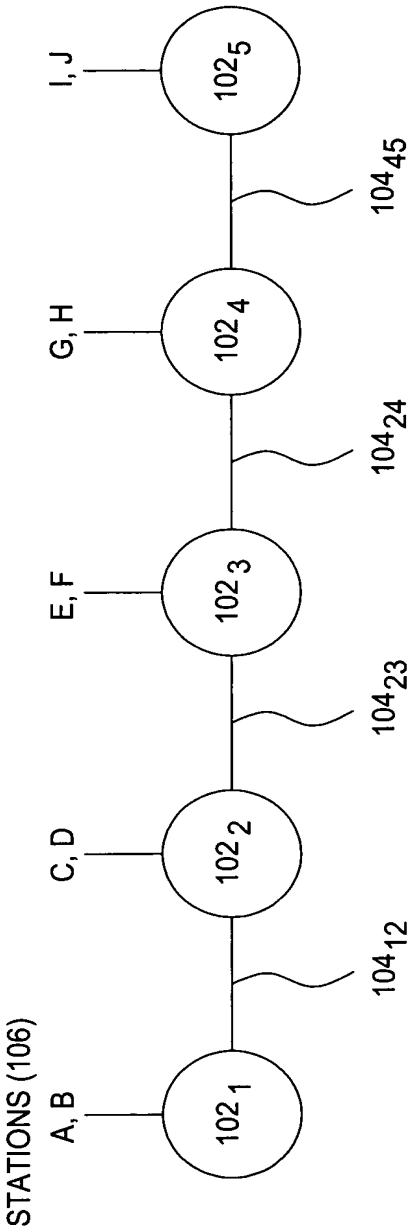


FIG. 2

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"Method and Apparatus for Flow Control of Data in a Network"

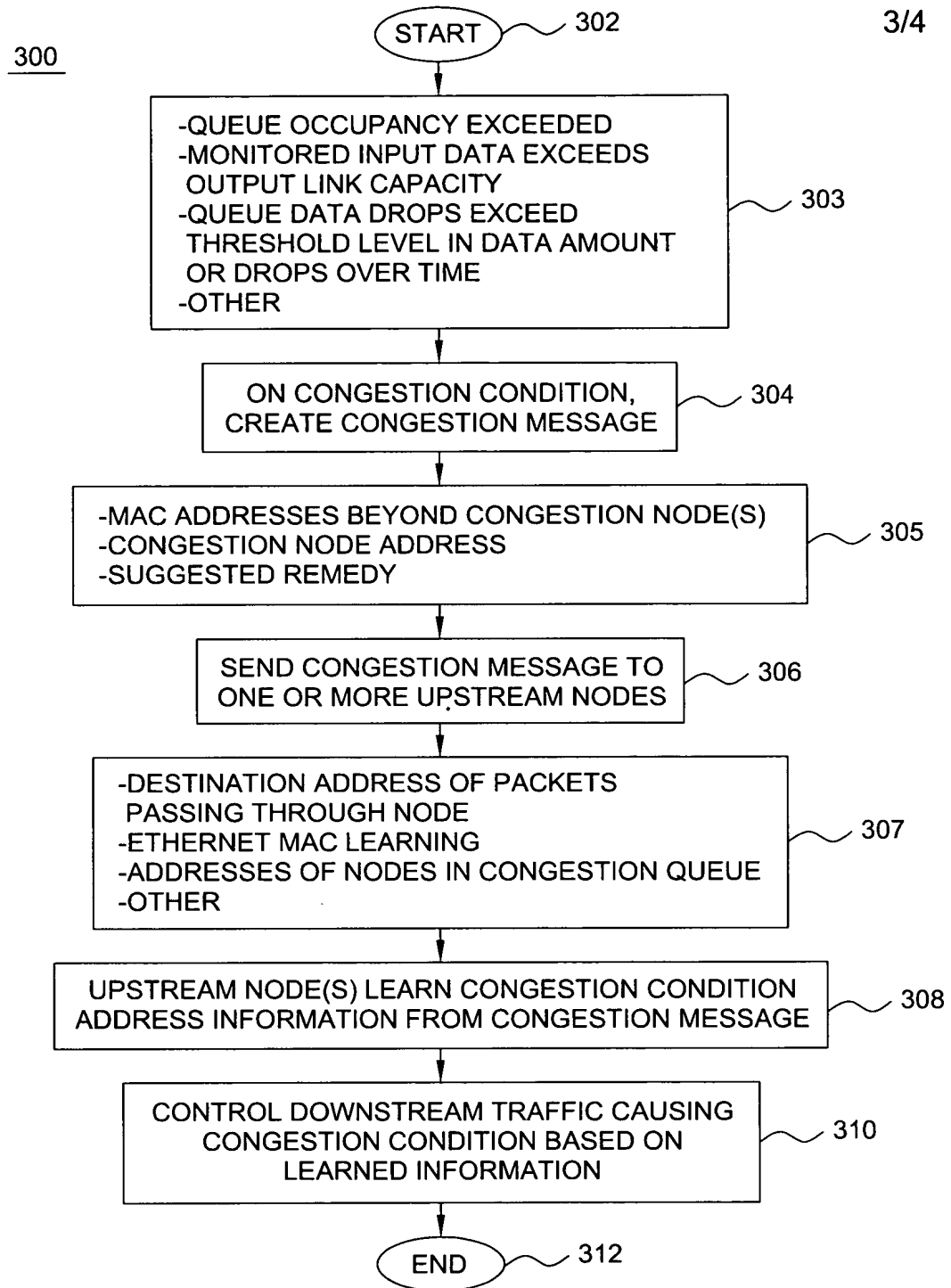


FIG. 3



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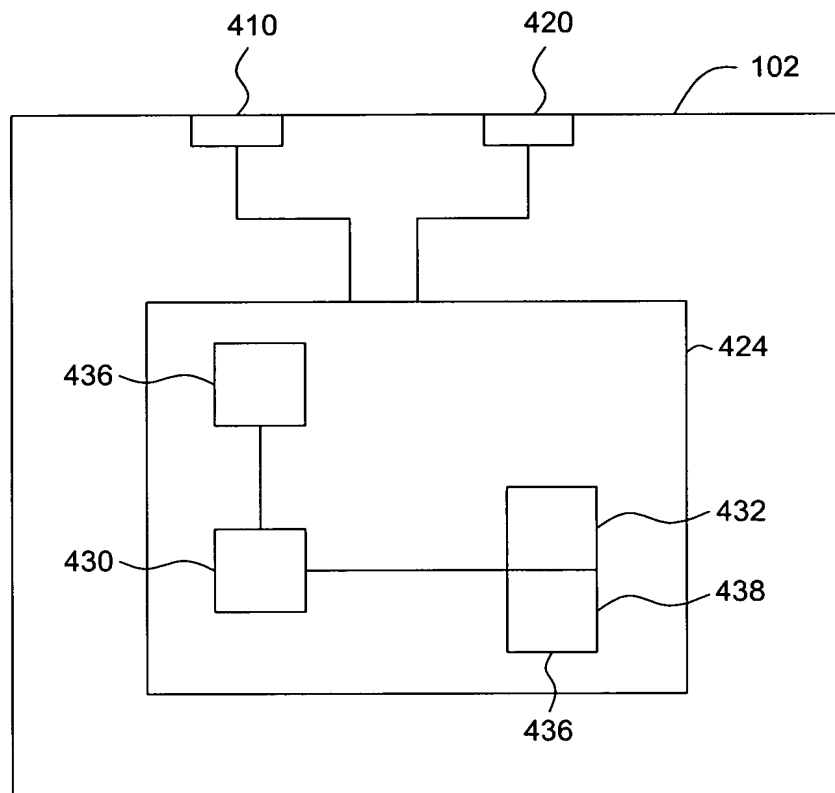


FIG. 4

IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE

Declaration and Power of Attorney

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and sole inventor (if a single name listed below) or an original, first and joint inventor (if plural names listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK** the specification of which

☒ [ X ] is attached hereto

OR

☐ [ ] was filed on \_\_\_\_\_ as application Serial No. \_\_\_\_\_.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by an amendment, if any, specifically referred to in this oath or declaration.

I acknowledge the duty to disclose all information known to me which is material to patentability as defined in Title 37, Code of Federal Regulations, 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

None

I hereby claim the benefit under Title 35, United States Code, 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

None

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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I hereby appoint Practitioners associated with Customer No.

**46,363**

as my Attorneys with full power of substitution and revocation, to prosecute said application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent and Trademark Office connected therewith:

Telephone calls should be made to EAMON J. WALL at:

Phone No.: 732-530-9404

Fax No.: 732-530-9808

All written communications are to be addressed to:

**CUSTOMER #46,363  
MOSER, PATTERSON & SHERIDAN, LLP/  
LUCENT TECHNOLOGIES, INC.  
595 Shrewsbury Avenue  
Suite 100  
Shrewsbury, New Jersey 07702  
Attention: Eamon J. Wall**

I hereby authorize these Attorneys to insert in the above blanks the filing date and application serial no. when known.

Full name of 1st inventor: **RICHA MALHOTRA**

Inventor's  
signature

*Malhotra*

Date *23<sup>rd</sup> March 2005*

Residence: **De Klomp 75-16 Twente, Enschede, Netherlands 7511DG**

Citizenship: **India**

Post Office Address: **same as above**

**PATENT APPLICATION FEE DETERMINATION RECORD**

Effective December 8, 2004

11088073

**CLAIMS AS FILED - PART I**

(Column 1) (Column 2)

TOTAL CLAIMS	19	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	19 minus 20 = *	0
INDEPENDENT CLAIMS	3 minus 3 = *	0
MULTIPLE DEPENDENT CLAIM PRESENT <input type="checkbox"/>		

\* If the difference in column 1 is less than zero, enter "0" in column 2

**CLAIMS AS AMENDED - PART II**

(Column 1) (Column 2) (Column 3)

AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**	=
	Independent	*	Minus	***	=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>				

(Column 1) (Column 2) (Column 3)

AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**	=
	Independent	*	Minus	***	=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>				

(Column 1) (Column 2) (Column 3)

AMENDMENT C		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**	=
	Independent	*	Minus	***	=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>				

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.  
 \*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."  
 \*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

SMALL ENTITY  
TYPE ☐OR OTHER THAN  
SMALL ENTITY

RATE	FEE
BASIC FEE	150.00
X\$ 25=	
X100=	
+180=	
TOTAL	

RATE	FEE
BASIC FEE	300.00
X\$50=	
X200=	
+360=	
TOTAL	

SMALL ENTITY OR OTHER THAN  
SMALL ENTITY

RATE	ADDITIONAL FEE
X\$ 25=	
X100=	
+180=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$50=	
X200=	
+360=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$ 25=	
X100=	
+180=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$50=	
X200=	
+360=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$ 25=	
X100=	
+180=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$50=	
X200=	
+360=	
TOTAL ADDIT. FEE	

PATENT APPLICATION SERIAL NO. \_\_\_\_\_

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE  
FEE RECORD SHEET

03/28/2005 RHEBRAHT 00000063 200782 11088073

01 FC:1011	300.00	DA
02 FC:1111	500.00	DA
03 FC:1311	200.00	DA

PTO-1556  
(5/87)

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	27686873	@rlad < "20050323" @ad < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 16:12
L2	185	L1 and (congest\$3 same capacity same (queue buffer fifo) same drop\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 16:14
L3	46	L1 and (congest\$3 same capacity same (queue buffer fifo) same drop\$6 same exceed\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 17:48
L4	2	L1 and (congest\$3 same (drop\$6 near rate) same exceed\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 16:40
L5	90	L1 and (congest\$3 same (drop\$6 near rate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 16:41
L6	10	L1 and (congest\$3 same threshold same (drop\$6 near rate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 16:43



## EAST Search History

L7	0	L1 and (source near2 unknown) with (destination near3 drop\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 17:50
L8	0	L1 and (source near2 unknown) same (destination near3 drop\$6) with address	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 17:52
L9	8	L1 and (source near2 unknown) same (destination with drop\$6 with address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 17:54
S1	8	(Malhotra near2 Richa).in. and (Lucent Alcatel).as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 13:13
S2	4289	370/229,230,230.1,231.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 13:15
S3	27686873	@rlad < "20050323" @ad < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 13:32
S4	3805	S2 and S3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 15:26

## EAST Search History

S5	4	S4 and (congest\$3 same (upstream uplink)) and (SLA (service adj level adj agreement)) and (MAC near address) and drop\$6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 13:48
S6	0	S4 and (congest\$3 same (upstream uplink) same (MAC near address)) and (SLA (service adj level adj agreement)) and drop\$6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 13:45
S7	0	S3 and (congest\$3 same (upstream uplink) same (MAC near address)) and (SLA (service adj level adj agreement)) and drop\$6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 13:45
S8	19	S3 and (congest\$3 same (upstream uplink)) and (SLA (service adj level adj agreement)) and (MAC near address) and drop\$6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:08
S9	1	S3 and (congest\$3 same (upstream uplink) same (MAC near address) same drop\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:14
S10	1	S3 and (congest\$3 same (upstream uplink) same (MAC near address)) and drop\$6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:16
S11	162	S4 and (congest\$3 same (upstream uplink))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:16

## EAST Search History

S12	31	S4 and (((reduc\$3 alleviat\$3) near2 congest\$3) same (upstream uplink))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:17
S13	42	S4 and (((detect\$3 determin\$6) near2 congest\$3) same (upstream uplink))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:18
S14	2	S4 and (((detect\$3 determin\$6) near2 congest\$3) same (upstream uplink) same MAC)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:21
S15	2	S4 and (((detect\$3 determin\$6) near2 congest\$3) same (upstream uplink) same address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:26
S16	14	S4 and (congest\$3 same (upstream uplink) same address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 16:33
S17	0	us-2003210653-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:45
S18	2	us-20030210653-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 14:45

## EAST Search History

S19	4	S4 and ((congest\$3 same (upstream uplink) same message same (MAC address)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 16:43
S20	8	S4 and ((congest\$3 near2 message) same (up\$1link up\$1stream))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 16:55
S21	0	S3 and "370"/\$.ccls. and ((congest\$3 near2 message) same (up\$1link up\$1stream) same (MAC address))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 16:57
S22	0	S3 and ((congest\$3 near2 message) same (up\$1link up\$1stream) same (MAC address))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 17:01
S23	91	S3 and ((congest\$3) same (up\$1link up\$1stream) same (MAC address))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 17:04
S24	34	S3 and ((congest\$3) with (up\$1link up\$1stream) same (MAC address))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 17:15
S25	14	S3 and (congest\$3 same (up\$1link up\$1stream) with (address (MAC adj address)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 17:39

## EAST Search History

S26	50	S23 not S24 not S25	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/25 17:39
S27	4289	370/229,230,230.1,231.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 15:27
S28	27686873	@rlad < "20050323" @ad < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 15:27
S29	3805	S27 and S28	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 15:27
S30	1	S29 and (drop\$6 same (MAC adj address) same congest\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 15:29
S31	22	S28 and (drop\$6 same (MAC adj address) same congest\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 16:25
S32	55	S28 and (congest\$3 same (SLA "Service Level Agreement") same drop\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:23

## EAST Search History

S33	0	S28 and (congest\$3 same (SLA "Service Level Agreement") same ("cannot inability can't unable") near2 drop\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 17:41
S34	0	S28 and ((SLA "Service Level Agreement") same ("cannot inability can't unable") near2 drop\$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 17:41
S35	27686873	@rlad < "20050323" @ad < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:26
S36	1	S35 and (source near2 unknown) with drop\$6 with destination	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:34
S37	19	S35 and (source near2 unknown) same drop\$6 same destination	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:45
S38	4289	370/229,230,230.1,231.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:45
S39	27686873	@rlad < "20050323" @ad < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:45

## EAST Search History

S40	3805	S38 and S39		US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:45
S41	60	S40 and drop\$6 near4 destination		US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:46
S42	6	S40 and drop\$6 near4 destination near address		US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:47
S43	0	S39 and (source near2 unknown) same drop\$6 near4 destination near address		US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:50
S44	1	S40 and (source near2 unknown) same drop\$6		US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:50
S45	1	S40 and (source near2 unknown) same drop\$6 and destination near address		US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:56
S46	1	S39 and (source near2 unknown) same drop\$6 with destination near address		US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:56

## EAST Search History

S47	608	S39 and (congest\$3 same (end near (node point station))))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 20:59
S48	287	S39 and (congest\$3 with (end near (node point station))))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:01
S49	0	S39 and (congest\$3 with (end near (node point station)))) same upstream same address	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:02
S50	6	S39 and (congest\$3 with (end near (node point station)))) same upstream	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:16
S51	3	S39 and (congest\$3 near3 (end near (node point station)))) same upstream	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:18
S52	78	S39 and (congest\$3 near2 (end near (node point station))))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:32
S53	26	S39 and (congest\$3 near3 (end near (node point station)))) not S52	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:42



## EAST Search History

S54	110	S39 and (congest\$3 same (drop (drop near rate)) same threshold same exceed\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:45
S55	102	S39 and (congest\$3 same (drop (drop near rate)) same threshold with exceed\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:46
S56	1	S39 and (congest\$3 same (drop near rate) same threshold with exceed\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:48
S57	120	S39 and (congest\$3 same (queue buffer fifo) same drop\$6 same threshold with exceed\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/26 21:51
S58	88	S39 and (congest\$3 same (queue buffer fifo) same drop\$6 with threshold with exceed\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/10/27 16:07



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	11/01/2007	EXAMINER	
PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			11/01/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

11/088,073

Applicant(s)

MALHOTRA, RICHA

Examiner

Xavier Szewai Wong

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23<sup>rd</sup> March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23<sup>rd</sup> March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Application/Control Number: 11/088,073  
 Art Unit: 2616

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## DETAILED ACTION

### *Claim Objections*

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). Misnumbered claims 16-19 have been renumbered 15-18 respectively.

Claim 9 is objected to because of the following informalities: "an end-node and an end-stationse" on line 2. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 6, 7, 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by **Choe et al (US 2005/0100031 A1)**.

Consider claims 1, 6, 7, 17 and 18, **Choe et al** disclose an apparatus comprising computer-readable medium comprising method and means for detecting congestion in a network ([0055]: 1-3); sending a congestion (fairness) message to upstream nodes and

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learn the MAC address of a downstream node associated with the congestion ([0055]: 3-9) and enabling control of data flow and reduce traffic (congestion) amount ([0056]: 1-8).

Consider claim 2, as applied to claim 1, **Choe** et al disclose congestion exists when buffer (queue) traffic of a (downstream) node exceeds a low\_threshold (therefore, queue occupancy exceeded) ([0054]) and a fairness message indicating the congestion ([0055]).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe et al (US 2005/0100031 A1)** in view of **Vaananen et al (US 2007/0058536 A1)**.

Consider claims 3-5, as applied to claims 1 and 4, **Choe et al** disclose the claimed invention except may not have explicitly disclosed the congestion condition is determined when data received by a node exceeds an output link capability of the node and a threshold exceeds a drop rate, which is determined with respect to an amount of packet dropped or an amount of data dropped over time and a number of data drops over time. **Vaananen et al** disclose congestion is determined when a queue (in a node) receives packets exceeding a threshold (queue length exceeded / output capacity) ([0056]: 1-6/23-27); a congestion limitation measures the dropping of packets (reads on as an amount of packets dropped) ([0056]: 6-12). It would have been obvious to one of ordinary skill in the art to combine the teachings of **Vaananen et al** to the invention of **Choe et al** for congestion management in overbooked links.

Claims 8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe et al (US 2005/0100031 A1)** in view of **Nguyen et al (US 2004/0179470 A1)**.

Consider claims 8 and 10-13, as applied to claims 1, 6 and 8, **Choe et al** disclose the claimed invention except explicitly mentioning dropping congestion-causing packets associated with a source and destination MAC address pair (and nodes). **Nguyen et al**

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disclose dropping packets (packet groups), according to source and destination MAC address, identified to cause traffic congestion ([0048]). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of **Nguyen et al** to the invention of **Choe et al** for data flow control.

Claim **9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe et al** (US 2005/0100031 A1) in view of **Minhazuddin et al** (US 2004/0073641 A1).

Consider claim **9**, as applied to claim **1**, **Choe et al** disclose the claimed invention except may not have explicitly mentioned the node associated with the congestion comprises an *end-node* and an *end-station*. **Minhazuddin et al** disclose an end-points being too congested to support additional traffic (congestion) ([0039]). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of **Minhazuddin et al** to the invention of **Choe et al** for monitoring network flow.

Claim **14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe et al** (US 2005/0100031 A1) in view of **Nguyen et al** (US 2004/0179470 A1), as applied to claim **13**, and in further view of **Bare** (US 6,556,541 B1).

Consider claim **14**, as applied to claim **13**, **Choe et al**, as modified by **Nguyen et al**, disclose the claimed invention except dropping packet portion associated with only the destination address when source address is unknown. **Bare** discloses dropping a packet directed to (associated with) a destination address when source address of the packet is unknown (col. 12: 28-51). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of **Bare** to the invention of **Choe et al** and **Nguyen et al** for forwarding control of packets and load balancing purposes.

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Claims **16** and **17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe et al (US 2005/0100031 A1)** in view of **Schwartz et al (US 7,240,124 B2)**.

Consider claims **16** and **17**, as applied to claims **1** and **16**, **Choe et al** disclose the claimed invention except specifically mentioning a Service Level Agreement (SLA) associated to the flow and indicating inability to drop packets according to the SLA. **Schwartz et al** disclose a route optimizer that makes reports (indications) on policing parameters such as passing packets (e.g. inability to drop packets) and dropping packets according to SLA policies (col. 4: 4-18). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of **Schwartz et al** to the invention of **Choe et al** for defining optimal paths.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571-270-1780. The examiner can normally be reached on Monday through Friday 8 am - 5 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

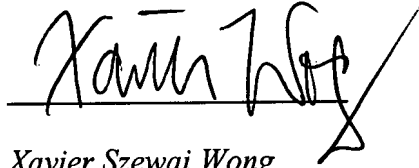


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*Xavier Szewai Wong*  
X.S.W / x.s.w  
26<sup>th</sup> October 2007

*Seema S. Rao*  
SEEMA S. RAO 10/29/07  
SUPERVISORY PATENT EXAMINER  
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<b>Notice of References Cited</b>	Application/Control No. 11/088,073	Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong	Art Unit 2616	Page 1 of 1

## U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2005/0100031 A1	05-2005	Choe et al.	370/404
*	B	US-2007/0058536 A1	03-2007	Vaananen et al.	370/230
*	C	US-2004/0179470 A1	09-2004	Nguyen et al.	370/216
*	D	US-7,240,124 B2	07-2007	Schwartz et al.	709/238
*	E	US-2004/0073641 A1	04-2004	Minhazuddin et al.	709/223
*	F	US-6,556,541 B1	04-2003	Bare, Ballard C.	370/235
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

## FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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	Q					
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	S					
	T					

## NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



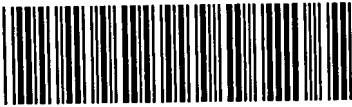
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## BIB DATA SHEET

CONFIRMATION NO. 7089

<b>SERIAL NUMBER</b> 11/088,073	<b>FILING or 371(c) DATE</b> 03/23/2005 <b>RULE</b>	<b>CLASS</b> 370	<b>GROUP ART UNIT</b> 2616	<b>ATTORNEY DOCKET NO.</b> R Malhotra 7 (LCNT/126709)		
<b>APPLICANTS</b> Richa Malhotra, Enschede, NETHERLANDS; <b>** CONTINUING DATA *****</b> <i>n/2 10.25.07 XSW</i> <b>** FOREIGN APPLICATIONS *****</b> <i>n/2 10.25.07 XSW</i> <b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **</b> 04/19/2005						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and Acknowledged <i>James Hong</i> Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials	<b>STATE OR COUNTRY</b> NETHERLANDS	<b>SHEETS DRAWINGS</b> 4	<b>TOTAL CLAIMS</b> 18	<b>INDEPENDENT CLAIMS</b> 3
<b>ADDRESS</b> PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702 UNITED STATES						
<b>TITLE</b> Method and apparatus for flow control of data in a network						
<b>FILING FEE RECEIVED</b> 1000	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees		
				<input type="checkbox"/> 1.16 Fees (Filing)		
				<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)		
				<input type="checkbox"/> 1.18 Fees (Issue)		
				<input type="checkbox"/> Other _____		
			<input type="checkbox"/> Credit			

<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Wong, Xavier Szewai	<b>Art Unit</b>  2616

✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant			<input type="checkbox"/> CPA			<input type="checkbox"/> T.D.			<input type="checkbox"/> R.1.47		
CLAIM		DATE									
Final	Original	10/26/2007									
	1	✓									
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	14	✓									
	15	✓									
	16	✓									
	17	✓									
	18	✓									

**Search Notes**

Application/Control No.

11/088,073

Examiner

Xavier Szewai Wong

Applicant(s)/Patent under  
Reexamination

MALHOTRA, RICHA

Art Unit

2616

**SEARCHED**

Class	Subclass	Date	Examiner
370	229	10/25/2007	XSW
	230	10/25/2007	XSW
	230.1	10/25/2007	XSW
	231	10/25/2007	XSW

**INTERFERENCE SEARCHED**

Class	Subclass	Date	Examiner

**SEARCH NOTES  
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
EAST image and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	10/25/2007	XSW
Inventor Name and Assignee search in PALM ExPO and EAST	10/25/2007	XSW
ESP@CENET	10/25/2007	XSW

Serial No. 11/088,073

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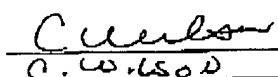
**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**RECEIVED  
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DEC 31 2007**

**Patent Application**

**Inventor(s):** Richa Malhotra  
**Case:** R Malhotra 7 (LCNT/126709)  
**Serial No.:** 11/088,073 **Group Art Unit:** 2616  
**Filed:** March 23, 2005  
**Examiner:** Wong, Xavier S **Confirmation #:** 7089  
**Title:** METHOD AND APPARATUS FOR FLOW CONTROL OF  
**DATA IN A NETWORK**

**MAIL STOP AMENDMENT  
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12-31-07 Date	 C. W. L. S. O. D.

**SIR:**

**RESPONSE AMENDMENT**

In response to the non-final Office Action mailed November 1, 2007, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this amendment to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for.

The Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 20-0782/LCNT/126709.

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DEC 31 2007

**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (currently amended) Method A method for data flow control in a network, comprising:
  - detecting a congestion condition in the network; and
  - sending a congestion message to one or more nodes upstream of the congestion condition;
  - said congestion message adapted to enable an upstream node to learn address information of at least one ~~node~~ end-node associated with the congestion condition to enable thereby the control of data flows in a manner tending to reduce the congestion condition.
2. (original) The method of claim 1, wherein:
  - the congestion condition is determined when a queue maximum occupancy is exceeded.
3. (original) The method of claim 1, wherein:
  - the congestion condition is determined when data received by a node exceeds an output link capability of the node.
4. (original) The method of claim 1, wherein:
  - the congestion condition is determined when a queue data drop rate exceeds a threshold level.
5. (original) The method of claim 4, wherein:

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the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

6. (original) The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.
7. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.
8. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.
9. (cancelled)
10. (currently amended) The method of claim 1, wherein the learned address information is the MAC address of a destination ~~node~~ end-node.
11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.
12. (currently amended) The method of claim ~~[[1]]~~ 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination ~~node~~ address.
13. (currently amended) The method of claim ~~[[1]]~~ 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination ~~node~~ addresses.
14. (currently amended) The method of claim 13, wherein:



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in response to the source address ~~node~~ end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination ~~node~~ address.

15. (original) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said flow to be controlled.

16. (original) The method of claim 16, further comprising:

receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (currently amended) A computer readable medium containing a program which, when executed, performs an operation of controlling data flow in a network comprising:

detecting a congestion condition in the network; and

sending a congestion message to one or more nodes upstream of the congestion condition;

said congestion message adapted to enable an upstream node to learn address information of at least one ~~node~~ end-node associated with the congestion condition to enable thereby the control of data flows in a manner tending to reduce the congestion condition.

18. (currently amended) Apparatus for controlling flow of data in a network comprising:

means for detecting a congestion condition in the network; and

means for sending a congestion message to one or more nodes upstream of the congestion condition;

said congestion message adapted to enable an upstream node to learn address information of at least one ~~node~~ end-node associated with the congestion condition to enable thereby the control of data flows in a manner tending to reduce the congestion condition.

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Remarks

Claims 1-18 are pending in the application.

Claims 1, 2, 6, 7, 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Choe et al. (US 2005/0100031 A1, hereinafter Choe).

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Vaananen et al. (US 2007/0058536 A1, hereinafter Vaananen).

Claims 8 and 10-13 are rejected under 35 U.S.C. 35 U.S.C. 103(a) as being unpatentable over Choe in view of Nguyen et al. (US 2004/0179470 A1, hereinafter Nguyen).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Minhazuddin et al. (US 2004/0073641 A1, hereinafter Minhazuddin).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Nguyen as applied to claim 13, and further in view of Bare (US 6,556,541 B1, hereinafter Bare).

Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Schwartz et al. (US 7,240,124 B2, hereinafter Schwartz). Applicant believes that the Examiner's statement that claims 16 and 17 are rejected under 35 U.S.C. 103(a) is incorrect due to the original mis-numbering of the claims. As such, Applicant believes that the rejection under 35 U.S.C. 103(a) applies to renumbered claims 15 and 16. Applicant respectfully requests that the Examiner indicate if this is not the case.

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known

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prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

### **Claim Objections**

#### **Claims 16 - 19**

Claims 16 – 19 are objected to due to a problem with the claim numbering. Applicant notes the Examiner's statement that "[m]isnumbered claims 16 – 19 have been renumbered 15 – 18 respectively." (Office Action, Pg. 2). Applicant has reflected the new claim numbering in the present response. Accordingly, Applicant respectfully requests that the objection be withdrawn.

#### **Claim 9**

Claim 9 is objected to due to a typographical error. Applicant has herein cancelled claim 9. Accordingly, Applicant respectfully requests that the objection be withdrawn.

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**Rejection Under 35 U.S.C. 102**

Claims 1, 2, 6, 7, 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Choe. The rejection is traversed.

Anticipation requires the presence in a single prior art disclosure of each and every element of the claimed invention, arranged as in the claim. Choe fails to disclose each and every element of Applicant's claim 1, as arranged the claim.

As noted by the Examiner in the Office Action, Choe fails to disclose that the address information of the at least one node associated with the congestion condition is address information of at least one end-node associated with the congestion condition. Rather, Choe discloses that a fairness message that is sent to upstream nodes is sent from a network node and includes the MAC address of the network node, not address information of an end-node. As such, Choe fails to teach or suggest at least the limitation that "said congestion message adapted to enable an upstream node to learn address information of at least one end-node associated with the congestion condition to enable thereby the control of data flows in a manner tending to reduce the congestion condition," as claimed in Applicant's claim 1.

As such, independent claim 1 is not anticipated by Choe and is patentable under 35 U.S.C. 102. Similarly, independent claims 17 and 18 recite relevant limitations similar to those recited in independent claim 1 and, at least for the same reasons discussed above, independent claims 17 and 18 are not anticipated by Choe and are patentable under 35 U.S.C. 102. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable over Choe under 35 U.S.C. 102.

Therefore, the rejection should be withdrawn.

**Rejection Under 35 U.S.C. 103(a)**

**Claims 3-5**

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Vaananen. The rejections are traversed.

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Claims 3-5 depend directly or indirectly from claim 1. Each ground of rejection applies only to dependent claims, and each is predicated on the validity of the rejection of claim 1 under 35 U.S.C. 102 given Choe. Since the rejection of claim 1 under 35 U.S.C. 102 given Choe has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Choe to render claim 1 unpatentable, these grounds of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

#### Claims 8 and 10-13

Claims 8 and 10-13 are rejected under 35 U.S.C. 35 U.S.C. 103(a) as being unpatentable over Choe in view of Nguyen. The rejections are traversed.

Claims 8 and 10-13 depend directly or indirectly from claim 1. Each ground of rejection applies only to dependent claims, and each is predicated on the validity of the rejection of claim 1 under 35 U.S.C. 102 given Choe. Since the rejection of claim 1 under 35 U.S.C. 102 given Choe has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Choe to render claim 1 unpatentable, these grounds of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

#### Claim 9

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Minhazuddin. The rejections are traversed.

Claim 9 was cancelled herein; however, Applicant respectfully notes that the rejection of claim 9 was predicated on the validity of the rejection of claim 1 under 35 U.S.C. 102 given Choe, which has been overcome for at least the reasons described herein with respect to claim 1. Specifically, Choe fails to teach or suggest at least the limitation of "said congestion message adapted to enable an upstream node to learn address information of at least one end-node associated with the congestion condition to

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enable thereby the control of data flows in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

Furthermore, Applicant notes that Minhazuddin fails to bridge the substantial gap between Choe and Applicant’s claim 1. Namely, Minhazuddin, like Choe, fails to teach or suggest at least the limitation of “said congestion message adapted to enable an upstream node to learn address information of at least one end-node associated with the congestion condition to enable thereby the control of data flows in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

In the Office Action, the Examiner cites a specific portion of Minhazuddin (namely, Para. 0039), however, the cited portion of Minhazuddin merely states that a monitor 204 determines if requests for entering a detailed monitoring state are being accepted, and describes some situations in which the system does not allow the session monitor and end points to enter into a detailed monitoring state. Although the cited portion of Minhazuddin mentions network congestion and end-points, the cited portion of Minhazuddin is devoid of any teaching or suggestion of any address information associated with any end-points, much less sending any message including address information.

As such, Minhazuddin, alone or in combination with Choe, fails to teach or suggest at least the limitation of “said congestion message adapted to enable an upstream node to learn address information of at least one end-node associated with the congestion condition to enable thereby the control of data flows in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

As such, Choe and Minhazuddin, alone or in combination, fail to teach or suggest Applicant’s claim 1, as whole.

#### Claim 14

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Nguyen as applied to claim 13, and further in view of Bare. The rejection is traversed.

Claim 14 depends directly or indirectly from claim 1. This ground of rejection applies only to a dependent claim, and is predicated on the validity of the rejection of

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claim 1 under 35 U.S.C. 102 given Choe. Since the rejection of claim 1 under 35 U.S.C. 102 given Choe has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Choe to render claim 1 unpatentable, these grounds of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

#### **Claims 16 and 17**

Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Schwartz. Applicant believes that the Examiner's statement that claims 16 and 17 are rejected under 35 U.S.C. 103(a) is incorrect due to the original mis-numbering of the claims. As such, Applicant believes that the rejection under 35 U.S.C. 103(a) applies to renumbered claims 15 and 16. Applicant respectfully requests that the Examiner indicate if this is not the case. The rejections are traversed.

Claims 16 and 17 (renumbered as claims 15 and 16) depend directly or indirectly from claim 1. Each ground of rejection applies only to dependent claims, and each is predicated on the validity of the rejection of claim 1 under 35 U.S.C. 102 given Choe. Since the rejection of claim 1 under 35 U.S.C. 102 given Choe has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Choe to render claim 1 unpatentable, these grounds of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

Dec-31-2007 03:14pm From-Patterson &amp; Sheridan, LLP - NJ

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Conclusion

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Michael Bentley or Eamon Wall at (732) 530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: 12/31/07

EJ Wall  
Eamon J. Wall  
Registration No. 39,414  
Attorney for Applicant(s)

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Facsimile: 732-530-9808

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PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed		
<b>APPLICATION AS FILED – PART I</b>											
(Column 1)			(Column 2)		SMALL ENTITY <input type="checkbox"/>		OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)					
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A		N/A						
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A		N/A						
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A						
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=	OR	X \$	=				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=				
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).										
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL					
<b>APPLICATION AS AMENDED – PART II</b>											
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		OTHER THAN SMALL ENTITY	
<b>AMENDMENT</b>	<b>12/31/2007</b>	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0	X \$	=	OR	X \$50=	0	
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$	=	OR	X \$210=	0	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		OTHER THAN SMALL ENTITY	
<b>AMENDMENT</b>		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.											

Legal Instrument Examiner:  
/AMANDA FORD/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363 7590 04/14/2008 PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			EXAMINER WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			04/14/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

11/088,073

**Applicant(s)**

MALHOTRA, RICHA

**Examiner**

Xavier Szewai Wong

**Art Unit**

2616

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31<sup>st</sup> December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Application/Control Number: 11/088,073  
Art Unit: 2616

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### DETAILED ACTION

Claims **1-8** and **10-18** are pending

Claims **1, 10, 12-14** and **17-18** have been amended with claim **9** canceled

### *Claim Objections*

Claim **16** is objected to because of the following informalities: The method of claim ~~46~~ → **15** on line 1. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **1, 2, 6, 7, 17** and **18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe** et al (**US 2005/0100031 A1**) in view of **Jacobs** et al (**US 2003/0107994 A1**).

Consider claims **1, 6, 7, 17** and **18**, **Choe** et al disclose an apparatus comprising computer-readable medium comprising method and means for detecting congestion in a network ([0055]: 1-3); sending a congestion (fairness) message to upstream nodes and learn the MAC address of a downstream node associated with the congestion ([0055]: 3-9) and enabling control of data flow and reduce traffic (congestion) amount ([0056]: 1-8). However, **Choe** et al may not have *specifically* disclosed learning address information of an end-node associated with the congestion. **Jacobs** et al teach when a congestion is detected at a router ([0024] ln. 34-37, threshold level is reached), an end-node address is learned associated with the congestion ([0024] ln. 37-42, a packet is *subsequently* received at a destination address... customer terminal reads ... *congestion* notification field; fig. 1 router *B* and end-node 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the steps of address learning of a node of **Choe** et al into learning an end-node address associated with a congestion of **Jacobs** et al so that the end-node may notify data sender to reduce flow rate of the relevant data stream and, therefore, reduce congestion at the relevant router.

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Consider claim **2**, as applied to claim **1**, **Choe et al**, as modified by **Jacobs et al**, disclose congestion exists when buffer (queue) traffic of a (downstream) node exceeds a low\_threshold (therefore, queue occupancy exceeded) ([0054]) and a fairness message indicating the congestion ([0055]).

Claims **3-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe et al (US 2005/0100031 A1)** in view of **Jacobs et al (US 2003/0107994 A1)**, as applied to claims **1** and **4**, **Vaananen et al (US 2007/0058536 A1)**.

Consider claims **3-5**, as applied to claims **1** and **4**, **Choe et al**, as modified by **Jacobs et al**, disclose the claimed invention except may not have *explicitly* disclosed the congestion condition is determined when data received by a node exceeds an output link capability of the node and a threshold exceeds a drop rate, which is determined with respect to an amount of packet dropped or an amount of data dropped over time and a number of data drops over time. **Vaananen et al** disclose congestion is determined when a queue (in a node) receives packets exceeding a threshold (queue length exceeded / output capacity) ([0056]: 1-6/23-27); a congestion limitation measures the dropping of packets (reads on as an amount of packets dropped) ([0056]: 6-12). It would have been obvious to one of ordinary skill in the art to combine the teachings of **Vaananen et al** to the invention of **Choe et al**, as modified by **Jacobs et al**, for congestion management in overbooked links.

Claims **8** and **10-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe et al (US 2005/0100031 A1)** in view of **Jacobs et al (US 2003/0107994 A1)**,

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as applied to claims **1**, **6** and **8**, and in further view of **Nguyen et al (US 2004/0179470 A1)**.

Consider claims **8** and **10-13**, as applied to claims **1**, **6** and **8**, **Choe et al** disclose the claimed invention except explicitly mentioning dropping congestion-causing packets associated with a source and destination MAC address pair and learned address information is the MAC address of a destination end-node. **Jacobs et al** disclose learning destination address of a customer terminal ([0024] In. 38-42; end-node), it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the steps of address learning of a node of **Choe et al** into learning an end-node address associated with a congestion of **Jacobs et al** so that the end-node may notify data sender to reduce flow rate of the relevant data stream and, therefore, reduce congestion at the relevant router. However, **Choe et al** and **Jacob et al** do not specifically teach learning a MAC address pair. **Nguyen et al** disclose dropping packets (packet groups), according to source and destination MAC address (pair), identified to cause traffic congestion ([0048]). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of **Nguyen et al** to the invention of **Choe et al**, as modified by **Jacobs et al**, for data flow control.

Claim **14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe et al (US 2005/0100031 A1)** in view of **Jacobs et al (US 2003/0107994 A1)** and **Nguyen et al (US 2004/0179470 A1)**, as applied to claim **13**, and in further view of **Bare (US 6,556,541 B1)**.

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Consider claim **14**, as applied to claim **13**, **Choe** et al, as modified by **Jacobs** et al and **Nguyen** et al, disclose the claimed invention except dropping packet portion associated with only the destination address when source address is unknown. **Bare** discloses dropping a packet directed to (associated with) a destination address when source address of the packet is unknown (col. 12: 28-51). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of **Bare** to the invention of **Choe** et al, as modified by **Jacobs** et al and **Nguyen** et al, for forwarding control of packets and load balancing purposes.

Claims **15** and **16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choe** et al (**US 2005/0100031 A1**) in view of **Jacobs** et al (**US 2003/0107994 A1**), as applied to claims **1** and **15**, **Schwartz** et al (**US 7,240,124 B2**).

Consider claims **15** and **16**, as applied to claims **1** and **15**, **Choe** et al, as modified by **Jacobs** et al, disclose the claimed invention except specifically mentioning a Service Level Agreement (SLA) associated to the flow and indicating inability to drop packets according to the SLA. **Schwartz** et al disclose a route optimizer that makes reports (indications) on policing parameters such as passing packets (e.g. inability to drop packets) and dropping packets according to SLA policies (col. 4: 4-18). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of **Schwartz** et al to the invention of **Choe** et al, as modified by **Jacobs** et al, for defining optimal paths.



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### ***Conclusion***

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
2. **Fawaz et al (US 2003/0133406 A1)** teach packets being classified according to SLA by their source and destination addresses; and implements congestion control that does not require nodes to be shut off completely during congestion
3. **Enomoto et al (US 2003/0076781 A1)** teach transferring packets to different directions by destination congestion controls

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, this action is made Final. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571-270-1780. The examiner can normally be reached on Monday through Friday 8 am - 5 pm (EST).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/  
Supervisory Patent Examiner,  
Art Unit 2616

*Xavier Szewai Wong*  
X.S.W / x.s.w  
1<sup>st</sup> April 2008

<b>Notice of References Cited</b>	Application/Control No. 11/088,073		Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong		Art Unit 2616	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2003/0107994 A1	06-2003	Jacobs et al.	370/235
*	B	US-2003/0076781 A1	04-2003	Enomoto et al.	370/229
*	C	US-2003/0133406 A1	07-2003	FAWAZ et al.	370/229
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**


*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Wong, Xavier Szewai	<b>Art Unit</b>  2616

✓	<b>Rejected</b>	-	<b>Cancelled</b>	N	<b>Non-Elected</b>	A	<b>Appeal</b>
=	<b>Allowed</b>	÷	<b>Restricted</b>	I	<b>Interference</b>	O	<b>Objected</b>

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant				<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
CLAIM		DATE							
Final	Original	10/26/2007	04/01/2008						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	-						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	✓	✓						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						

<b><i>Application Number</i></b> 	<b>Application/Control No.</b>	<b>Applicant(s)/Patent under Reexamination</b>	
	11/088,073	MALHOTRA, RICHA	
	<b>Examiner</b>	<b>Art Unit</b>	
	Xavier Szewai Wong	2616	

**Search Notes****Application/Control No.**

11/088,073

**Examiner**

Xavier Szewai Wong

**Applicant(s)/Patent under Reexamination**

MALHOTRA, RICHA

**Art Unit**

2616

**SEARCHED**

Class	Subclass	Date	Examiner
updated	search	4/1/2008	XSW
370	229-230.1		
	231		
	235		

**INTERFERENCE SEARCHED**

Class	Subclass	Date	Examiner

**SEARCH NOTES  
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
updated EAST class, text and image search	4/1/2008	XSW

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6437	370/229,230,230.1,231,235.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:33
L2	30142574	@rlad < "20050323" @ad < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:34
L3	768589	@pd > "20071025"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:34
L4	481	L1 and L3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:34
L5	315	L4 and L2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:34
L6	5562	L1 and L2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:35
L7	5	L5 and (congest\$5 same ((end adj (node point station device unit) destination) with address))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:42
L8	5	L5 and (congest\$5 same (end adj (node point station device unit) destination) same address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:45
L9	143	L6 and (congest\$5 same (end adj (node point station device unit) destination) with address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:46
L10	12	L6 and (congest\$5 same ((destination end) adj (node point station device unit) ) with address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 17:46

L11	3	L6 and (congest\$5 same (loop ring closed adj circuit) same ((destination end) adj (node point station device unit) ) same address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/01 18:08
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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Inventor(s):</b>	Richa Malhotra		
<b>Case:</b>	R Malhotra 7 (LCNT/126709)		
<b>Serial No.:</b>	11/088,073	<b>Group Art Unit:</b>	2616
<b>Filed:</b>	March 23, 2005		
<b>Examiner:</b>	Wong, Xavier S	<b>Confirmation #:</b>	7089
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		

**MAIL STOP AF  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**RESPONSE AMENDMENT AFTER FINAL REJECTION**

In response to the final Office Action mailed April 14, 2008, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a request therefor does not otherwise accompany this amendment, any necessary extension of time is hereby requested.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 20-0782/LCNT/126709.

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**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (currently amended) A method for data flow control in a network, comprising:  
detecting a congestion condition at a network node in the network; and  
sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;  
said congestion message adapted to enable ~~an upstream node~~ said one or more upstream network nodes to learn address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data ~~flows~~ flow in a manner tending to reduce the congestion condition.
2. (original) The method of claim 1, wherein:  
the congestion condition is determined when a queue maximum occupancy is exceeded.
3. (currently amended) The method of claim 1, wherein:  
the congestion condition is determined when data received by a network node exceeds an output link capability of the node.
4. (original) The method of claim 1, wherein:  
the congestion condition is determined when a queue data drop rate exceeds a threshold level.
5. (original) The method of claim 4, wherein:  
the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

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6. (original) The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.
7. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.
8. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.
9. (cancelled)
10. (previously presented) The method of claim 1, wherein the learned address information is the MAC address of a destination end-node.
11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.
12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.
13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.
14. (previously presented) The method of claim 13, wherein:

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in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

15. (currently amended) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

16. (currently amended) The method of claim ~~46~~15, further comprising:  
receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (currently amended) A computer readable medium containing a program which, when executed, performs an operation of controlling data flow in a network comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;

said congestion message adapted to enable ~~an upstream node~~ said one or more upstream network nodes to learn address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flows flow in a manner tending to reduce the congestion condition.

18. (currently amended) Apparatus for controlling flow of data in a network comprising:

means for detecting a congestion condition at a network node in the network; and

means for sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;

said congestion message adapted to enable ~~an upstream node~~ said one or more upstream network nodes to learn address information of at least one end-node associated

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with the congestion condition to enable thereby the control of at least one data flows flow in a manner tending to reduce the congestion condition.

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**Remarks**

Claims 1-8 and 10-18 are pending in the application. Claims 16 is objected to because of an informality.

Claims 1, 2, 6, 7, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe et al. (US 2005/0100031 A1, hereinafter Choe) in view of Jacobs et al. (US 2003/0107994 A1, hereinafter Jacobs).

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs as applied to claims 1 and 4, Vaananen et al. (US 2007/0058536 A1, hereinafter Vaananen). Claims 8 and 10-13 are rejected under 35 U.S.C. 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs as applied to claims 1, 6 and 8, and in further view of Nguyen et al. (US 2004/0179470 A1, hereinafter Nguyen). Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs and Nguyen as applied to claim 13, and further in view of Bare (US 6,556,541 B1, hereinafter Bare). Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs as applied to claims 1 and 15, Schwartz et al. (US 7,240,124 B2, hereinafter Schwartz).

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Entry of this Amendment is proper under 37 CFR 1.116 since the amendment: (a) places the application in condition for allowance for reasons discussed herein; (b) does not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) satisfies a requirement of form asserted in the previous Office Action; (d) does not present any additional claims without canceling a corresponding number of finally rejected claims; or (e) places the application in better form for appeal, should appeal be necessary. The amendment is necessary and was not earlier presented because it is made in response to arguments raised in the final rejection. Entry of the amendment is respectfully requested.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being

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made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

#### **Claim Objections**

Claim 16 is objected to for being dependent upon claim 16. Applicant has amended claim 16 to be dependent upon claim 15. As such, the objection should be withdrawn.

#### **Rejection Under 35 U.S.C. 103(a)**

Claims 1, 2, 6, 7, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs. The rejection is traversed.

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The Office Action failed to establish a *prima facie* case of obviousness because the combination of Choe and Jacobs fails to teach or suggest all the claim elements. As noted by the Examiner in the Office Action, Choe fails to disclose that the address information of the at least one node associated with the congestion condition is address information of at least one end-node associated with the congestion condition. Rather, Choe discloses that a fairness message that is sent to upstream nodes is sent from a network node and includes the MAC address of the network node from which the fairness message is sent, not address information of an end-node. As such, Choe fails to teach or suggest at least the limitation of “sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition; said congestion message adapted to enable said one or more upstream network nodes to learn address information of at least one end-node associated with the congestion condition,” as claimed in Applicant’s claim 1.

Furthermore, Jacobs fails to bridge the substantial gap between Choe and Applicant’s invention of independent claim 1.

In general, Jacobs discloses transmission of control packets from a data receiver to a data sender to provide a congestion notification from the data receiver to the data sender. (Jacobs, Abstract). Jacobs discloses that a router, upon detecting congestion due to packets traversing the router, writes appropriate values in congestion notification bits contained in header fields of the packets and then forwards the packets downstream toward the data receiver for which the packets are intended. (Jacobs, Para. 0024, Lines 17-18). Jacobs further discloses that when a packet thus marked is received at the data receiver, the data receiver reads the value from the congestion notification field and generates a control message that is transmitted back to the data sender, and, that when the data sender receives the control message, the data sender reduces the rate of flow of data in the relevant data stream. (Jacobs, Para. 0024, Lines 35-45).

In other words, Jacobs merely discloses a system in which a router that detects a congestion condition forwards an indication of the congestion condition downstream to the data receiver, and, further, in which the data receiver sends a congestion control message to the data sender.



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The transmission of an indication of congestion downstream from a network node to an end node (i.e., data receiver), as disclosed in Jacobs, does not teach or suggest sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition where the congestion message is adapted to enable the one or more upstream network nodes to learn address information of at least one end-node associated with the congestion condition, as claimed in Applicants' claim 1.

Similarly, transmission of an indication of congestion upstream from one end node (i.e., data receiver) to another end node (i.e., data sender), as disclosed in Jacobs, does not teach or suggest sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition where the congestion message is adapted to enable the one or more upstream network nodes to learn address information of at least one end-node associated with the congestion condition, as claimed in Applicants' claim 1.

Thus, Jacobs fails to teach or suggest "sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition; said congestion message adapted to enable said one or more upstream network nodes to learn address information of at least one end-node associated with the congestion condition," as claimed in Applicants' claim 1.

Furthermore, Applicants' note that even assuming that Choe and Jacobs can be operably combined, the resulting system would merely disclose: (1) a network node that sends a fairness message (including its own MAC address) upstream and marks packets being transmitted in the downstream direction with an indication of congestion, and (2) a data receiver that receives packets marked with an indication of congestion and transmits a control message from the data receiver to the data sender. Thus, in a system according to the combination of Choe and Jacobs, (1) the upstream network nodes receive MAC address information of the network node that detected the congestion and (2) the upstream end-node (i.e., data sender) receives a congestion indication from the downstream end-node (i.e., data receiver), but the upstream network nodes do not receive address information of at least one end-node associated with the congestion condition. Thus, a system according to the combination of Choe and Jacobs fails to teach or suggest

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at least the limitation of “sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition; said congestion message adapted to enable said one or more upstream network nodes to learn address information of at least one end-node associated with the congestion condition,” as claimed in Applicants’ claim 1.

As such, independent claim 1 is patentable under 35 U.S.C. 103(a) over Choe in view of Jacobs. Similarly, independent claims 17 and 18 recite relevant limitations similar to those recited in independent claim 1 and, at least for the same reasons discussed above, independent claims 17 and 18 also are patentable under 35 U.S.C. 103(a) over Choe in view of Jacobs. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is patentable under 35 U.S.C. 103(a) over Choe in view of Jacobs.

Therefore, the rejection should be withdrawn.

### **Claims 3-5**

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs as applied to claims 1 and 4, Vaananen. The rejections are traversed.

Claims 3-5 depend directly or indirectly from independent claim 1. Each ground of rejection applies only to dependent claims, and each is predicated on the validity of the rejection of claim 1 under 35 U.S.C. 103 given Choe in view of Jacobs. Since the rejection of claim 1 under 35 U.S.C. 103 given Choe in view of Jacobs has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that Vaananen supplies that which is missing from Choe and Jacobs to render independent claim 1 unpatentable, these grounds of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

### **Claims 8 and 10-13**

Claims 8 and 10-13 are rejected under 35 U.S.C. 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs as applied to claims 1, 6 and 8 and further in view of Nguyen. The rejections are traversed.

Serial No. 11/088,073

Page 11 of 13

Claims 8 and 10-13 depend directly or indirectly from independent claim 1. Each ground of rejection applies only to dependent claims, and each is predicated on the validity of the rejection of claim 1 under 35 U.S.C. 103 given Choe in view of Jacobs. Since the rejection of claim 1 under 35 U.S.C. 103 given Choe in view of Jacobs has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that Nguyen supplies that which is missing from Choe and Jacobs to render independent claim 1 unpatentable, these grounds of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

#### **Claim 14**

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs and Nguyen as applied to claim 13, and further in view of Bare. The rejection is traversed.

Claim 14 depends directly or indirectly from independent claim 1. This ground of rejection applies only to a dependent claim and is predicated on the validity of the rejection of claim 1 under 35 U.S.C. 103 given Choe in view of Jacobs. Since the rejection of claim 1 under 35 U.S.C. 103 given Choe in view of Jacobs has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that Nguyen and Bare alone or in combination supply that which is missing from Choe and Jacobs to render independent claim 1 unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

#### **Claims 15 and 16**

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choe in view of Jacobs as applied to claims 1 and 15, Schwartz. The rejections are traversed.

Claims 15 and 16 depend directly or indirectly from independent claim 1. Each ground of rejection applies only to dependent claims, and each is predicated on the validity of the rejection of claim 1 under 35 U.S.C. 103 given Choe in view of Jacobs. Since the rejection of claim 1 under 35 U.S.C. 103 given Choe in view of Jacobs has been

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overcome, as described hereinabove, and there is no argument put forth by the Office Action that Schwartz supplies that which is missing from Choe and Jacobs to render independent claim 1 unpatentable, these grounds of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

Serial No. 11/088,073

Page 13 of 13

**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Michael Bentley or Eamon Wall at (732) 530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: \_\_\_\_\_

5/12/08



\_\_\_\_\_  
Eamon J. Wall

Registration No. 39,414

Attorney for Applicant(s)

PATTERSON & SHERIDAN, LLP  
595 Shrewsbury Avenue, Suite 100  
Shrewsbury, New Jersey 07702  
Telephone: 732-530-9404  
Facsimile: 732-530-9808

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	3302774
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	14-MAY-2008
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	14:25:44
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1		LCNT126709eFinalAmend5_14_08.pdf	<div style="text-align: center;">486597</div> <div style="font-size: small;">3773c2914198888b2fb9cfe8ed600d4f684d83ae</div>	yes	13

## Multipart Description/PDF files in .zip description

	Document Description	Start	End
	Amendment After Final	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	13

**Warnings:****Information:****Total Files Size (in bytes):**

486597

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed	
<b>APPLICATION AS FILED – PART I</b>										
(Column 1)			(Column 2)			SMALL ENTITY <input type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.										
<b>APPLICATION AS AMENDED – PART II</b>										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
<b>AMENDMENT</b>	<b>05/14/2008</b>	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0	X \$	=		X \$	= 0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$	=		X \$	= 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
<b>AMENDMENT</b>	Total (37 CFR 1.16(i))	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Independent (37 CFR 1.16(h))	*	Minus	**	=	X \$	=		X \$	=
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>										

Legal Instrument Examiner:  
/DENISE HOPKINS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.





## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	05/27/2008	EXAMINER	
PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			05/27/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

11/088,073

Applicant(s)

MALHOTRA, RICHA

Examiner

Xavier Szewai Wong

Art Unit

2616

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 14<sup>th</sup> May 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: amended claims 1, 17 and 18 require further consideration. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: \_\_\_\_\_.
- Claim(s) objected to: \_\_\_\_\_.
- Claim(s) rejected: 1-18.
- Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_
13. ☐ Other: \_\_\_\_\_.

/Seema S. Rao/  
Supervisory Patent Examiner, Art Unit 2616

Continuation Sheet (PTO-303)

Application No.

Serial No. 11/088,073

Page 1 of 13

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Inventor(s):</b>	Richa Malhotra		
<b>Case:</b>	R Malhotra 7 (LCNT/126709)		
<b>Serial No.:</b>	11/088,073	<b>Group Art Unit:</b>	2616
<b>Filed:</b>	March 23, 2005		
<b>Examiner:</b>	Wong, Xavier S	<b>Confirmation #:</b>	7089
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		

Please Don't Enter, X.S.W, 22.05.08

**MAIL STOP AF  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**RESPONSE AMENDMENT AFTER FINAL REJECTION**

In response to the final Office Action mailed April 14, 2008, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a request therefor does not otherwise accompany this amendment, any necessary extension of time is hereby requested.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 20-0782/LCNT/126709.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# Request For Continued Examination (RCE) Transmittal

Address to:  
Mail Stop RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Application Number	11/088,073
Filing Date	03/23/2005
First Named Inventor	Malhotra
Art Unit	2616
Examiner Name	Xavier S. WONG
Attorney Docket Number	R. Malhotra 7 (LCNT/126709)

## This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

- Submission required under 37 C.F.R. 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

a. ☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

  - ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_
  - ☒ Other Response Amendment After Final Rejection filed 5/14/08

b. ☐ Enclosed

  - ☐ Amendment/Reply
  - ☐ Affidavit(s)/Declaration(s)
  - ☐ Information Disclosure Statement (IDS)
  - ☐ Other \_\_\_\_\_
- Miscellaneous**

a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. 1.103(c) for a period of \_\_\_\_\_ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. 1.17(i) required)

b. ☐ Other \_\_\_\_\_
- Fees** The RCE fee under 37 C.F.R. 1.17(e) is required by 37 C.F.R. 1.114 when the RCE is filed.

a. ☐ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. \_\_\_\_\_. I have enclosed a duplicate copy of this sheet.

  - ☐ RCE fee required under 37 C.F.R. 1.17(e)
  - ☐ Extension of time fee (37 C.F.R. 1.136 and 1.17)
  - ☐ Other \_\_\_\_\_

b. ☐ Check in the amount of \$ \_\_\_\_\_ enclosed

c. ☒ Payment by credit card. The fee of **\$810** has been paid with the submission of this paper using the Patent Electronic Business Center. In the event of an additional fee, kindly charge that fee to Deposit Account No. 20-0782.

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	<i>EJ Wall</i>	Date	<i>7/10/08</i>
Name (Print /Type)	Eamon J. Wall	Registration No.	39,414

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11088073			
<b>Filing Date:</b>	23-Mar-2005			
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network			
First Named Inventor/Applicant Name:	Richa Malhotra			
<b>Filer:</b>	Eamon J. Wall/Carol Wilson			
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709			
Filed as Large Entity				
<b>Utility      Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Post-Allowance-and-Post-Issuance:				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
Request for continued examination	1801	1	810	810
<b>Total in USD (\$)</b>				<b>810</b>

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	3597968
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	10-JUL-2008
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	17:05:24
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 810
RAM confirmation Number	2344
Deposit Account	200782
Authorized User	WALL,EAMON J.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)



**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	LCNT126709eRCE7_10_08.pdf	59079 6addc7f6fc4ce4ab9768eeeb5ee1a0d630988fc1	no	1

**Warnings:**

This is not a USPTO supplied RCE SB30 form.

**Information:**

2	Fee Worksheet (PTO-06)	fee-info.pdf	8186 c80f4f2e0665964336c9a5ed6c7af2849141db91	no	2
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**Warnings:****Information:**

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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed	
<b>APPLICATION AS FILED – PART I</b>										
(Column 1)			(Column 2)			SMALL ENTITY <input type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =		OR	X \$ =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =			X \$ =				
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL				
<b>APPLICATION AS AMENDED – PART II</b>										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
<b>AMENDMENT</b>	<b>07/10/2008</b>	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0	X \$ =		OR	X \$50=	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$ =		OR	X \$210=	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
<b>AMENDMENT</b>		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =		OR	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>										

Legal Instrument Examiner:  
/DAVINA G. BUTLER/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Serial No. 11/088,073  
Page 1 of 13

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

**Inventor(s):** Richa Malhotra  
**Case:** R Malhotra 7 (LCNT/126709)  
**Serial No.:** 11/088,073 **Group Art Unit:** 2616  
**Filed:** March 23, 2005  
**Examiner:** Wong, Xavier S **Confirmation #:** 7089  
**Title:** METHOD AND APPARATUS FOR FLOW CONTROL OF  
DATA IN A NETWORK

**MAIL STOP AF  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**RESPONSE AMENDMENT AFTER FINAL REJECTION**

In response to the final Office Action mailed April 14, 2008, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a request therefor does not otherwise accompany this amendment, any necessary extension of time is hereby requested.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 20-0782/LCNT/126709.

ENTERED  
WRC  
7-10-08  
DBL  
7-18-08



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	08/21/2008	EXAMINER	
PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			08/21/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

11/088,073

**Applicant(s)**

MALHOTRA, RICHA

**Examiner**

Xavier Szewai Wong

**Art Unit**

2616

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14<sup>th</sup> May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Application/Control Number: 11/088,073  
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## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 14<sup>th</sup> May 2008 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto et al (US 2003/0076781 A1, "Enomoto").
4. Claims 1, 17 and 18: Enomoto discloses an apparatus comprising computer-readable medium containing a program which when executed performs an operation of controlling data flow in a network (figs. 1-4) comprising:
- means for detecting a congestion condition at a network node in the network ([0126]; fig. 1: congestion control part A13 of node A1); and
- means for sending a congestion message from the network node (A1) at which the congestion condition is detected to one or more network nodes upstream of the congestion condition ([0130 & 0386]: wherein congestion notification sent back "upstream" to node A2 from A1; fig. 2: R11 → A13 → L105 → A14 → L104 → A2; transfer direction

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determination part A11);

said congestion message adapted to enable said one or more upstream network nodes to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154, 156 & 158]); wherein address information is learned of at least one end-node associated with the congestion condition ([0402 & 406]; fig. 8).

Claim 2, applied to claim 1: Enomoto discloses the congestion condition is determined when a queue maximum occupancy is exceeded ([0227]).

Claim 3, applied to claim 1: Enomoto discloses the congestion condition is determined when data received by a network node exceeds an output link capability of the node ([0227]).

Claim 6, applied to claim 1: Enomoto discloses the congestion message comprises an indication that a congestion condition exists ([0210]).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, "Enomoto") in view of Paul et al (US 6,148,005, "Paul").

Claims 4 and 5, applied to claims 1 and 4: Enomoto discloses the claimed invention yet not *very specifically* mentioned congestion condition is dependent of a queue data drop rate exceeding a threshold level wherein the threshold is determined by at least one of an amount of data dropped, an amount of data dropped over time and

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a number of data drops over time. Paul mentions the *concept* of when a packet loss (drop) rate goes above a certain level (threshold), a network node (e.g. receiver) moves into a congested state (col. 8 lines 39-67; col. 10 lines 55-62). It would have been obvious to one of ordinary skill in the art at the time the invention was created to apply such congestion condition determination policies taught by Paul to the congestion buffer used amount measuring part of Enomoto (fig. 3 part A138) for effective retransmission error recovery to recover lost packets based on the congestion state.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, "Enomoto") in view of Kawakami et al (US 2002/0136163 A1, "Kawakami").

Claims 7, 8, 10 and 11, applied to claims 6, 1 and 8: Enomoto discloses the claimed invention yet the specifics of: the congestion message comprising a MAC address pair, which has source and destination addresses, of a traffic flow or an end-node contributing to the congestion are not *very expressively* mentioned. Kawakami mentions the congestion notification packet wherein a MAC address of a terminal (end-node) to which flow (data flow) control is to be applied is specified as the destination address of the packet; and in a data packet, the transmission source address specified in the packet is the MAC address of a source terminal, however in the case of a congestion notification packet a unique address is specified as the source address ([0108]). It would have been obvious to one of ordinary skill in the art to apply the



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concept of pair MAC (source, destination) address congestion message of Kawakami to the congestion notification of Enomoto to avoid packet loss from a congested flow.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, "Enomoto") in view of Kawakami et al (US 2002/0136163 A1, "Kawakami"), applied to claim 11, and in further view of Lee et al (US 6,636,510 B1, "Lee").

Claim 12, applied to claim 11: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned dropping packets associated with the *destination address*. Lee discloses destination address modification for congestion may be accompanied by partial packet discard, through destination address modification of the remaining cells forming part of a multiple cell packet to remove the destination address for the congested port; and, sending with destination address modification and optional partial packet discard if the queue size is above the threshold (abstract; col. 3 lines 20-30). It would have been obvious to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the destination address based packet dropping policy of Lee to avoid overflow buffer in transmission.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, "Enomoto") in view of Kawakami et al (US 2002/0136163 A1, "Kawakami"), applied to claims 11 and 13, and in further view of Bare (US 7,283,476 B2).

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Claims 13 and 14, applied to claims 11 and 13: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned the dropping of packets associated with *source and destination addresses* wherein when the *source end-node address is unknown*, the data flow is controlled by dropping those packets associated only with the destination address. Bare mentions both source and destination addresses are used to determine packet dropping conditions; and, that a packet with unknown source address is dropped directed to a specific destination MAC address (col. 13 lines 42-50 & 66-67). It would have been obvious to one of ordinary skill in the art at the time the invention was created to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the source and destination addresses as taught by Bare to maintain load balancing by checking whether a packet from a certain source address were received within a predetermined time window.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, "Enomoto") in view of Agrawal et al (US 2003/0081546 A1, "Agrawal").

Claims 15 and 16, applied to claims 1 and 15: Enomoto discloses the claimed invention yet not specifically about Service Level Agreement flow control and dropping policies. Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA), which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself ([0003]); wherein clearly flows are controlled by SLA and flows being *delayed* is

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interpreted as a condition for inability to drop since there are the options of “flows are delayed *or* dropped” specifically. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the flow control function of Enomoto to realize the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Nakamura et al (US 2001/0012269 A1) disclose generating and sending RM cell immediately to a communication terminal that is transmitting a cell which causes congestion within a communication apparatus having a congestion cell buffer at the time of generation of a congestion of a cell buffer in the node

7. Ma et al (US 7,369,498 B1) disclose controlling congestion in a packet-switched network wherein a packet queue length in a network node is determined and a congestion notification is transmitted back to a source address of an incoming data packet received at the network node if the packet queue length exceeds a predetermined threshold

8. Nakazaki et al (US 6,222,839 B1) disclose a control part for discarding a frame taking an origination address of a packet as its destination address in case that

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information showing a congestion state is added to said packet received by a packet communication part

9. Joung et al (US 6,754,222 B1) disclose port transmission/reception control sections perform an error checking operation; wherein specifically, if there were MAC error, unknown source address, address move, and destination address occur with respect to the packets, the respective port transmission/reception control sections determine a drop, broadcast, or forward to host

10. Golikeri et al (US 2005/0190754 A1) disclose an intermediate device typically creates its address entries dynamically whenever the intermediate device receives an unknown address. For example, when an intermediate device receives a protocol message including an unknown source address, the intermediate device may create an address entry mapping the particular address to the interface over which the protocol message was received. Thereafter, when the intermediate device receives a protocol message with a destination address equal to that particular address, the intermediate device processes the protocol message based upon the filtering and routing information in the address entry. Specifically, the intermediate device typically "drops" the protocol message, if the protocol message is received over network interface that is associated with that particular address, or forwards the protocol message onto the network interface that is associated with that particular address, if the protocol message is received over a different network interface than the network interface associated with that particular network address

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is (571)270-1780. The examiner can normally be reached on Monday through Friday 8:30 am - 6:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*/Xavier Szewai Wong/*  
X.S.W / x.s.w  
08.08.2008

*/Brenda Pham/*

Primary Examiner, Art Unit 2616

<b>Notice of References Cited</b>	Application/Control No. 11/088,073		Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong		Art Unit 2616	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2003/0081546 A1	05-2003	Agrawal et al.	370/229
*	B	US-7,283,476 B2	10-2007	Bare, Ballard C.	370/236
*	C	US-6,636,510 B1	10-2003	Lee et al.	370/390
*	D	US-2002/0136163 A1	09-2002	Kawakami et al.	370/229
*	E	US-6,148,005	11-2000	Paul et al.	370/469
*	F	US-2003/0076781 A1	04-2003	Enomoto et al.	370/229
*	G	US-2005/0190754 A1	09-2005	Golikeri et al.	370/383
*	H	US-6,754,222 B1	06-2004	Joung et al.	370/412
*	I	US-6,222,839 B1	04-2001	Nakazaki et al.	370/352
*	J	US-7,369,498 B1	05-2008	Ma et al.	370/235
*	K	US-2001/0012269 A1	08-2001	NAKAMURA et al.	370/230
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**Search Notes****Application/Control No.**

11/088,073

**Examiner**

Xavier Szewai Wong

**Applicant(s)/Patent under Reexamination**

MALHOTRA, RICHA

**Art Unit**

2616

**SEARCHED**


Class	Subclass	Date	Examiner
370	229-231	8/7/2008	XSW
	235-236	8/7/2008	XSW
	236.1-.2	8/7/2008	XSW

**INTERFERENCE SEARCHED**


Class	Subclass	Date	Examiner

**SEARCH NOTES  
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
EAST image and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	8/7/2008	XSW
EAST image and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	8/11/2008	XSW

<b><i>Application Number</i></b> 	<b>Application/Control No.</b>	<b>Applicant(s)/Patent under Reexamination</b>	
	11/088,073	MALHOTRA, RICH	
	<b>Examiner</b>	<b>Art Unit</b>	
	Xavier Szewai Wong	2616	



<b><i>Index of Claims</i></b> 	<b>Application/Control No.</b> 11088073	<b>Applicant(s)/Patent Under Reexamination</b> MALHOTRA, RICHA
	<b>Examiner</b> Xavier Szewai Wong	<b>Art Unit</b> 2616

✓	<b>Rejected</b>	-	<b>Cancelled</b>	N	<b>Non-Elected</b>	A	<b>Appeal</b>
=	<b>Allowed</b>	÷	<b>Restricted</b>	I	<b>Interference</b>	O	<b>Objected</b>

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant					<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
CLAIM		DATE								
Final	Original	10/26/2007	04/01/2008	08/08/2008						
	1	✓	✓	✓						
	2	✓	✓	✓						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
	8	✓	✓	✓						
	9	✓	-	-						
	10	✓	✓	✓						
	11	✓	✓	✓						
	12	✓	✓	✓						
	13	✓	✓	✓						
	14	✓	✓	✓						
	15	✓	✓	✓						
	16	✓	✓	✓						
	17	✓	✓	✓						
	18	✓	✓	✓						

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7683	370/229-231,235,236,236.1,236.2.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 15:56
L2	10078	370/253,312,349,389,471.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 15:58
L3	154	370/395.71.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 16:13
L4	30213578	@RLAD < "20050323" @AD < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 16:14
L5	6514	L4 and L1	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 16:23
L6	558	L4 and L2 and L1	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 16:25
L7	1	L4 and L3 and L2 and L1	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 16:26
L8	73	L5 and (congest\$5 same (upstream uplink) same (notification message))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 16:59
L9	11	L5 and (congest\$5 same (upstream uplink) same (notification message) same (MAC address MAC adj address))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 17:00
L11	1	L10 and (congest\$5 same (notification message) and (MAC address MAC adj address)) and (upstream uplink)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 17:03

L12	1	L10 and (congest\$5 same (upstream uplink) same (notification message) and (MAC address MAC adj address))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 17:04
L13	14850	(L1 L2 L3) and L4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 17:50
L14	7	L13 and congest\$5 same (upstream uplink) same (notifi\$7 messag\$5) same (ring loop)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 17:52
L15	10	L13 and congest\$5 same (MAC adj address MAC address) same (notifi\$7 messag\$5) same (ring loop)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/07 18:02

8/ 7/ 2008 6:11:31 PM

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L7	7683	370/229-231,235,236,236.1,236.2.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/08 17:26
L8	10078	370/253,312,349,389,471.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/08 17:26
L9	154	370/395.71.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/08 17:26
L10	30213578	@RLAD < "20050323" @AD < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/08 17:26
L11	14850	(L7 L8 L9) and L10	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/08 17:26
L12	59	L11 and (congest\$5 with address with (message notification))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/08 17:35

8/ 8/ 2008 7:14:24 PM

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L15	10078	370/253,312,349,389,471.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/09 17:07
L16	154	370/395.71.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/09 17:07
L17	30213578	@RLAD < "20050323" @AD < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/09 17:07
L18	14850	(L14 L15 L16) and L17	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/09 17:07
L19	10	L18 and (queue buffer) with ((drop\$4 discard\$4) near rate) with exceed\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/09 17:07
L20	14	L18 and (queue buffer) with ((drop\$4 discard\$4) near rate) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/09 17:08

8/ 9/ 2008 5:17:17 PM

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S22	7683	370/229-231,235,236,236.1,236.2. ocls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 01:22
S23	29443872	@RLAD < "20050323" @AD < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 01:22
S24	6514	S23 and S22	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 01:22
S25	3	S24 and (Service adj Level adj Agreement) same (drop\$4 discard \$4) same (destination adj address)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 01:22
S26	4	S24 and (Service adj Level adj Agreement) same (drop\$4 discard \$4) same destination	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 01:23
S27	20	S24 and (Service adj Level adj Agreement) with (drop\$4 discard\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 01:25
S28	48	S24 and ((drop\$4 discard\$4) near rate) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 02:23
S29	2	S24 and ((drop\$4 discard\$4) near rate) with congest\$5 with threshold	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 02:53

8/ 10/ 2008 3:37:57 AM

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7683	370/229-231,235,236,236.1,236.2.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 04:23
L2	30213878	@PLAD < "20050323" @AD < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 04:23
L3	6514	L2 and L1	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 04:23
L4	0	L3 and (((MAC adj address) near5 pair\$4) same congest\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 04:23
L5	14	L3 and ((MAC adj address) with congest\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 04:23
L6	4	L3 and ((MAC adj address) with congest\$5) same flow	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 04:25
L7	4	L3 and ((MAC adj address) same congest\$5) same flow same source same destination	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 04:27
L8	7	L3 and ((MAC adj address) same congest\$5) same destination same (drop\$4 discard\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 05:29

8/ 10/ 2008 5:41:16 AM

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L1	7683	370/229-231,235,236,236.1,236.2.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:27
L2	10078	370/253,312,349,389,471.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:27
L3	154	370/395.71.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:27
L4	30213878	@RLAD < "20050323" @AD < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:27
L5	14850	(L1 L2 L3) and L4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:27
L6	178	L5 and (congest\$5 same destination same source same (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:27
L7	146	L1 and L4 and (congest\$5 same destination same source same (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:34
L8	24	L1 and L4 and (congest\$5 with destination with source with (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:43
L9	9	L1 and L4 and (congest\$5 same (destination adj address) same (source adj address) same (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/10 23:49
L10	0	L1 and L4 and (congest\$5 with (source adj address) with (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 00:07



L11	2	L4 and (congest\$5 with (source adj address) with (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 00:08
L12	43	L4 and L1 and ((source adj address) with (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 00:13
L13	9	L4 and (congest\$5 with (destination adj address) with (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 00:14
L14	1	L4 and L1 and ((source adj address) with unknown with (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 00:39
L15	0	L4 and L1 and ((source adj address) with unknown same (destination adj address) same (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 00:40
L16	8	L4 and ((source adj address) with unknown same (destination adj address) same (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 00:40
L17	22	L4 and ((source adj address) same unknown same (destination adj address) same (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 01:07
L18	2	"6556541".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 01:16
L19	15	L4 and ((source adj address) with (unknown "not found") with (drop\$4 discard\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 01:29
L20	10	L4 and ((source adj address) with (unknown "not found") same (drop\$4 discard\$4) same destination)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 01:32
L21	5	L4 and ((source with (unknown "not found")) with (drop\$4 discard\$4) with destination)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 01:48

L22	27	L4 and ((source with (unknown "not found")) same (drop\$4 discard\$4) with destination)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/08/11 01:57
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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Inventor(s):</b>	Richa Malhotra		
<b>Case:</b>	R Malhotra 7 (LCNT/126709)		
<b>Serial No.:</b>	11/088,073	<b>Group Art Unit:</b>	2616
<b>Filed:</b>	March 23, 2005		
<b>Examiner:</b>	Wong, Xavier S	<b>Confirmation #:</b>	7089
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		

**MAIL STOP AMENDMENT  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**RESPONSE AMENDMENT**

In response to the non-final Office Action mailed August 21, 2008, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 20-0782/LCNT/126709.

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**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (currently amended) A method for data flow control in a network, comprising:  
detecting a congestion condition at a network node in the network; and  
sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;  
~~wherein said congestion message adapted to enable said one or more upstream network nodes to learn~~ comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.
2. (original) The method of claim 1, wherein:  
the congestion condition is determined when a queue maximum occupancy is exceeded.
3. (previously presented) The method of claim 1, wherein:  
the congestion condition is determined when data received by a network node exceeds an output link capability of the node.
4. (original) The method of claim 1, wherein:  
the congestion condition is determined when a queue data drop rate exceeds a threshold level.
5. (original) The method of claim 4, wherein:  
the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

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6. (original) The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.
7. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.
8. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.
9. (cancelled)
10. (currently amended) The method of claim 1, wherein the ~~learned~~ address information is the MAC address of a destination end-node.
11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.
12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.
13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.
14. (previously presented) The method of claim 13, wherein:

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in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

15. (previously presented) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

16. (previously presented) The method of claim 15, further comprising:  
receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (currently amended) A computer readable medium containing a program which, when executed, performs an operation of controlling data flow in a network comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;

~~wherein said congestion message adapted to enable said one or more upstream network nodes to learn~~ comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

18. (currently amended) Apparatus for controlling flow of data in a network comprising:

means for detecting a congestion condition at a network node in the network; and

means for sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;

~~wherein said congestion message adapted to enable said one or more upstream network nodes to learn~~ comprises address information of at least one end-node associated

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with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

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**Remarks**

Claims 1-8 and 10-18 are pending in the application.

Claims 1, 2, 6, 7, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto et al. (US 2003/0076781 A1, “Enomoto”). Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami et al. (US 2002/0136163 A1, “Kawakami”). Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami, applied to claim 11, and in further view of Lee et al. (U.S. Patent No. 6,636,510 B1, “Lee”). Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami as applied to claims 11 and 13, and in further view of Bare (U.S. Patent No. 7,283,476 B2, “Bare”). Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Agrawal et al (U.S. 2003/0081546 A1, “Agrawal”).

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent



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form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

**Rejection Under 35 U.S.C. 102(b)**

Claims 1, 2, 6, 7, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto. The rejection is traversed.

Anticipation requires the presence in a single prior art disclosure of each and every element of the claimed invention, arranged as in the claim.

Enomoto fails to disclose each and every element of the claimed invention, as arranged in independent claim 1. Namely, Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Applicants' claim 1.

Rather, Enomoto merely discloses a system in which a congestion control node, in response to detecting a congestion condition, sends a congestion notification to other congestion control nodes, where the congestion notification includes an allowable bandwidth amount and the address of the congestion control node that generates the congestion notification.

Specifically, with respect to the congestion notification, Enomoto states that "[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node." (Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that "[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender." (Enomoto, Para. 398, Emphasis added).

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In other words, Enomoto merely discloses a system in which a congestion notification message includes an address of the node that generates the congestion notification message. Enomoto is devoid of any teaching or suggestion that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Applicants' claim 1.

As such, independent claim 1 is patentable under 35 U.S.C. 102(b) over Enomoto. Similarly, independent claims 17 and 18 recite relevant limitations similar to those recited in independent claim 1 and, at least for the same reasons discussed above, independent claims 17 and 18 also are patentable under 35 U.S.C. 102(b) over Enomoto. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is patentable under 35 U.S.C. 102(b) over Enomoto.

Therefore, the rejection should be withdrawn.

#### **Rejection Under 35 U.S.C. 103(a)**

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami, applied to claim 11, and in further view of Lee. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami as applied to claims 11 and 13, and in further view of Bare. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Agrawal. The rejections are traversed.

Each of these grounds of rejection applies only to dependent claims, and each is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, these grounds of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

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**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Michael Bentley or Eamon Wall at (732) 530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: 11/17/08



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Eamon J. Wall  
Registration No. 39,414  
Attorney for Applicant(s)

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Facsimile: 732-530-9808

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	4310419
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	18-NOV-2008
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	16:26:25
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LCNT1267909eAmend11_18_08.pdf	318209 9908b1b830b35f93644d3630f35c0b9071512a0b	yes	9

	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	9

**Warnings:****Information:**

<b>Total Files Size (in bytes):</b>	318209
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed	
<b>APPLICATION AS FILED – PART I</b>										
(Column 1)			(Column 2)			SMALL ENTITY <input type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.										
<b>APPLICATION AS AMENDED – PART II</b>										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	11/18/2008	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	=	0		X \$52=	0	
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	=	0		X \$220=	0	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0	
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	*	Minus	**	=		X \$	=		
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X \$	=		
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.										
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".										
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:  
/ERIC DANTZLER/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	03/04/2009	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2416	
			MAIL DATE	DELIVERY MODE
			03/04/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

11/088,073

**Applicant(s)**

MALHOTRA, RICHA

**Examiner**

Xavier Szewai Wong

**Art Unit**

2416

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18<sup>th</sup> November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |



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## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 18<sup>th</sup> November 2008 have been considered but they are not persuasive.

Applicants raised the issue that Enomoto does not teach "congestion message comprises address information of at least one end-node associated with the congestion condition" (Remarks: pg. 7). Enomoto does mention a congestion notification identifies "a congestion section from ID of the generation source (e.g. end-node) node of notification and ID of the adjacent node...[0406]." Thus, as long as the source ID related to congestion is identified, it reads on as end-node associated with the congestion condition.

### ***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto et al (US 2003/0076781 A1, "Enomoto").
3. Claims 1, 17 and 18: Enomoto discloses an apparatus comprising computer-readable medium containing a program which when executed performs an operation of controlling data flow in a network (figs. 1-4) comprising:

means for detecting a congestion condition at a network node in the network ([0126]; fig. 1: congestion control part A13 of node A1); and

means for sending a congestion message from the network node (A1) at which the congestion condition is detected to one or more network nodes upstream of the congestion

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condition ([0130 & 0386]; wherein congestion notification sent back “upstream” to node A2 from A1;

fig. 2: R11 → A13 → L105 → A14 → L104 → A2; transfer direction determination part A11);

said congestion message adapted to enable said one or more upstream network nodes to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154, 156 & 158]); wherein address information is learned of at least one end-node associated with the congestion condition ([0402 & 406]; fig. 8).

Claim 2, applied to claim 1: Enomoto discloses the congestion condition is determined when a queue maximum occupancy is exceeded ([0227]).

Claim 3, applied to claim 1: Enomoto discloses the congestion condition is determined when data received by a network node exceeds an output link capability of the node ([0227]).

Claim 6, applied to claim 1: Enomoto discloses the congestion message comprises an indication that a congestion condition exists ([0210]).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, “Enomoto”) in view of Paul et al (US 6,148,005, “Paul”).

Claims 4 and 5, applied to claims 1 and 4: Enomoto discloses the claimed invention yet not *very specifically* mentioned congestion condition is dependent of a queue data drop rate exceeding a threshold level wherein the threshold is determined by at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time. Paul mentions the *concept* of when a packet loss (drop) rate goes above a certain level (threshold), a network node (e.g. receiver) moves into a congested state (col. 8 lines 39-67; col. 10 lines 55-62). It would have been obvious to one of ordinary skill in the art at the time the invention was created

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to apply such congestion condition determination policies taught by Paul to the congestion buffer used amount measuring part of Enomoto (fig. 3 part A138) for effective retransmission error recovery to recover lost packets based on the congestion state.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, “Enomoto”) in view of Kawakami et al (US 2002/0136163 A1, “Kawakami”).

Claims 7, 8, 10 and 11, applied to claims 6, 1 and 8: Enomoto discloses the claimed invention yet the specifics of: the congestion message comprising a MAC address pair, which has source and destination addresses, of a traffic flow or an end-node contributing to the congestion are not *very expressively* mentioned. Kawakami mentions the congestion notification packet wherein a MAC address of a terminal (end-node) to which flow (data flow) control is to be applied is specified as the destination address of the packet; and in a data packet, the transmission source address specified in the packet is the MAC address of a source terminal, however in the case of a congestion notification packet a unique address is specified as the source address ([0108]). It would have been obvious to one of ordinary skill in the art to apply the concept of pair MAC (source, destination) address congestion message of Kawakami to the congestion notification of Enomoto to avoid packet loss from a congested flow.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, “Enomoto”) in view of Kawakami et al (US 2002/0136163 A1, “Kawakami”), applied to claim 11, and in further view of Lee et al (US 6,636,510 B1, “Lee”).

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Claim 12, applied to claim 11: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned dropping packets associated with the *destination address*. Lee discloses destination address modification for congestion may be accompanied by partial packet discard, through destination\_address modification of the remaining cells forming part of a multiple cell packet to remove the destination address for the congested port; and, sending with destination\_address modification and optional partial packet discard if the queue size is above the threshold (abstract; col. 3 lines 20-30). It would have been obvious to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the destination address based packet dropping policy of Lee to avoid overflow buffer in transmission.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, “Enomoto”) in view of Kawakami et al (US 2002/0136163 A1, “Kawakami”), applied to claims 11 and 13, and in further view of Bare (US 7,283,476 B2).

Claims 13 and 14, applied to claims 11 and 13: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned the dropping of packets associated with *source and destination addresses* wherein when the *source end-node address is unknown*, the data flow is controlled by dropping those packets associated only with the destination address. Bare mentions both source and destination addresses are used to determine packet dropping conditions; and, that a packet with unknown source address is dropped directed to a specific destination MAC address (col. 13 lines 42-50 & 66-67). It would

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have been obvious to one of ordinary skill in the art at the time the invention was created to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the source and destination addresses as taught by Bare to maintain load balancing by checking whether a packet from a certain source address were received within a predetermined time window.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, “Enomoto”) in view of Agrawal et al (US 2003/0081546 A1, “Agrawal”).

Claims 15 and 16, applied to claims 1 and 15: Enomoto discloses the claimed invention yet not specifically about Service Level Agreement flow control and dropping policies. Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA), which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself ([0003]); wherein clearly flows are controlled by SLA and flows being *delayed* is interpreted as a condition for inability to drop since there are the options of “flows are delayed *or* dropped” specifically. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the flow control function of Enomoto to realize the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

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***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Kawakami, US 2002/0136163 A1: congestion notification packet which is transmitted upon occurrence of said first degree of congestion is an individual congestion notification packet containing destination address information identifying said congestion origin terminal

2. Lee, US 2005/0052994 A1: a congestion indicator includes: a congestion indicator type value designated CI\_TYPE; a second field carrying an originator identity value designated ORIGINATOR\_ID so that a receiver node may determine the location in the network that is affected by congestion; the originator identity value ORIGINATOR\_ID tells the receiver about the identity of the entity that generated the congestion indicator

This action is made Final. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 8:30 am - 6:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571.272.1000.

*/Xavier Szewai Wong/*

X.S.W  
2<sup>nd</sup> March 2009

*/Seema S. Rao/*

Supervisory Patent Examiner, Art Unit  
2416

<b>Notice of References Cited</b>	Application/Control No. 11/088,073		Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong		Art Unit 2416	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0136163 A1	09-2002	Kawakami et al.	370/229
*	B	US-2005/0052994 A1	03-2005	Lee, Man-Ho Lawrence	370/230
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.




## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	8403	370/229-231,235,236,236.1,236.2.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/01 23:02
L2	10795	370/253,312,349,389,471.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/01 23:02
L3	156	370/395.71.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/01 23:02
L4	15629	(L1 L2 L3) and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/01 23:02
L5	950	L4 and (congest\$5 with (end\$1node end\$1station terminal destination))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/01 23:12
L6	34	L4 and (congest\$5 with (message notification) with (ID identification identifier address) with (end\$1node end\$1station terminal destination))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/01 23:17
L7	14	L4 and (congest\$5 with (message notification) with (ID identification identifier address) with (end\$1node end\$1station terminal))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/01 23:20
L9	27	L4 and (congest\$5 with (ID identification identifier address) with origin\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/01 23:27


3/ 1/ 2009 11:32:53 PM

C:\Documents and Settings\xwong\My Documents\EAST\Workspaces\Malhotra.03-01-09.wsp

<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2416

✓	<b>Rejected</b>	-	<b>Cancelled</b>	N	<b>Non-Elected</b>	A	<b>Appeal</b>
=	<b>Allowed</b>	÷	<b>Restricted</b>	I	<b>Interference</b>	O	<b>Objected</b>

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant						<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
CLAIM		DATE									
Final	Original	10/26/2007	04/01/2008	08/08/2008	03/01/2009						
	1	✓	✓	✓	✓						
	2	✓	✓	✓	✓						
	3	✓	✓	✓	✓						
	4	✓	✓	✓	✓						
	5	✓	✓	✓	✓						
	6	✓	✓	✓	✓						
	7	✓	✓	✓	✓						
	8	✓	✓	✓	✓						
	9	✓	-	-	-						
	10	✓	✓	✓	✓						
	11	✓	✓	✓	✓						
	12	✓	✓	✓	✓						
	13	✓	✓	✓	✓						
	14	✓	✓	✓	✓						
	15	✓	✓	✓	✓						
	16	✓	✓	✓	✓						
	17	✓	✓	✓	✓						
	18	✓	✓	✓	✓						

<b>Search Notes</b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Wong	<b>Art Unit</b>  2416

SEARCHED			
Class	Subclass	Date	Examiner
370	229- 231,235,236,236.1,236.2,253,312,349,389,471,395.71	03.01.09	XSW

SEARCH NOTES		
Search Notes	Date	Examiner
updated EAST image, class and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	03.01.09	XSW

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Inventor(s):</b>	Richa Malhotra		
<b>Case:</b>	R Malhotra 7 (ALU/126709)		
<b>Serial No.:</b>	11/088,073	<b>Group Art Unit:</b>	2416
<b>Filed:</b>	March 23, 2005		
<b>Examiner:</b>	Wong, Xavier S	<b>Confirmation #:</b>	7089
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		

**MAIL STOP AF  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**RESPONSE AMENDMENT AFTER FINAL REJECTION**

In response to the final Office Action mailed March 4, 2009, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 50-4802/ALU/126709.

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**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (previously presented) A method for data flow control in a network, comprising:  
detecting a congestion condition at a network node in the network; and  
sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;  
wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.
2. (original) The method of claim 1, wherein:  
the congestion condition is determined when a queue maximum occupancy is exceeded.
3. (previously presented) The method of claim 1, wherein:  
the congestion condition is determined when data received by a network node exceeds an output link capability of the node.
4. (original) The method of claim 1, wherein:  
the congestion condition is determined when a queue data drop rate exceeds a threshold level.
5. (original) The method of claim 4, wherein:  
the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

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6. (original) The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.
7. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.
8. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.
9. (cancelled)
10. (previously presented) The method of claim 1, wherein the address information is the MAC address of a destination end-node.
11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.
12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.
13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.
14. (previously presented) The method of claim 13, wherein:  
in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

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15. (previously presented) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

16. (previously presented) The method of claim 15, further comprising:  
receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (previously presented) A computer readable medium containing a program which, when executed, performs an operation of controlling data flow in a network comprising:  
detecting a congestion condition at a network node in the network; and  
sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;  
wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

18. (previously presented) Apparatus for controlling flow of data in a network comprising:  
means for detecting a congestion condition at a network node in the network; and  
means for sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;  
wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

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**Remarks**

Claims 1-8 and 10-18 are pending in the application.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto et al. (US 2003/0076781 A1, "Enomoto").

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Paul et al. (US 6,148,005, "Paul")>

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami et al. (US 2002/0136163 A1, "Kawakami").

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami, applied to claim 11, and in further view of Lee et al. (U.S. Patent No. 6,636,510 B1, "Lee").

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami as applied to claims 11 and 13, and in further view of Bare (U.S. Patent No. 7,283,476 B2, "Bare").

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Agrawal et al (U.S. 2003/0081546 A1, "Agrawal").

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Entry of this Amendment is proper under 37 CFR 1.116 since the amendment: (a) places the application in condition for allowance for the reasons discussed herein; (b) does not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) satisfies a requirement of form asserted in the previous Office Action; (d) does not present any additional claims without canceling a corresponding number of finally rejected claims; or (e) places the application in better form for appeal, should an appeal be necessary. The amendment is necessary and was not earlier presented because it is made in response to arguments raised in the final rejection. Entry of the amendment is thus respectfully requested.



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Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

**Rejection Under 35 U.S.C. 102(b)**

**Claims 1, 2, 3, 6, 17 and 18**

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto. The rejection is traversed.

Anticipation requires the presence in a single prior art disclosure of each and every element of the claim, arranged as in the claim.

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Enomoto fails to disclose each and every element of Applicants' independent claim 1, as arranged in independent claim 1. Namely, Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Applicants' claim 1.

Rather, Enomoto merely discloses a system in which a congestion control node, in response to detecting a congestion condition, sends a congestion notification to other congestion control nodes, where the congestion notification includes an allowable bandwidth amount and the address of the congestion control node that generates the congestion notification.

Specifically, with respect to the congestion notification, Enomoto states that "[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node." (Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that "[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender." (Enomoto, Para. 398, Emphasis added).

In other words, Enomoto merely discloses a system in which a congestion notification message includes an address of the node that generates the congestion notification message. Enomoto is devoid of any teaching or suggestion that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Applicants' claim 1.

Thus, Applicants submit that Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Applicants' claim 1.

In the Response to Arguments Section of the Final Office Action, the Examiner states that "Enomoto does mention a congestion notification identifies 'a congestion section from ID of the generation source (e.g. end-node) node of notification and ID of

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the adjacent node...[0406].” (Final Office Action, Pg. 2). Applicants respectfully disagree.

In response, Applicants respectfully submit that the Examiner is impermissibly generalizing Applicants’ claim 1. More specifically, the Examiner is generalizing the “end-node” of Applicants’ claim 1.

Applicants note that the standard for claim interpretation during the examination of a patent application is that “claims ... are to be given their broadest reasonable interpretation consistent with the specification, *and* ... claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1365; 70 U.S.P.Q. 2D (BNA) 1827 (Fed. Cir. 2004), citing *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990) and *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir.1999).

Applicants respectfully submit that the Examiner has interpreted Applicants’ claim 1 in an unreasonably broad manner that is inconsistent with Applicants’ specification. The Examiner unreasonably generalizes the term “end-node” to cover network nodes and then, on the basis of this unreasonable generalization, concludes that the network node of Enomoto discloses the end-node of Applicants’ claim 1. Applicants respectfully submit that such an interpretation is improper and, thus, cannot support a rejection of Applicants’ claim 1 in view of Enomoto.

Applicants note that Applicants’ specification and Applicants’ claim 1 both differentiate between end-nodes (identified using reference number 106) and network nodes (identified using reference number 102). As indicated in Applicants’ specification, an end-node, or end-station, is the source node or destination node of a data flow.

For example, Applicants’ specification states that “...a method according to one embodiment of the invention for controlling data flow in a network includes detecting a congestion condition in the network, sending a congestion message to one or more nodes upstream of the congestion condition, learning address information of one or more end nodes or stations pertaining to the congestion condition sending another congestion message containing these learned MAC addresses and (the nodes receiving this congestion message with the MAC addresses) controlling a flow of data of the learned address information is the congestion message. The learned address information is the

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MAC address of a destination node to which the data is flowing towards or is a MAC address pair of the nodes between which the data is flowing.” (Specification, Pg. 3, Lines 24-34).

Similarly, for example, Applicants’ specification states that “[i]n a first example, if the congestion message contains only a destination address (e.g., the address of a end-node/end-station G), then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node G. In a second example, if the congestion message contains an source/destination address pair (e.g., the address of nodes AB), then the upstream node or controlling entity may drop all or a certain percentage of packets sourced from node A that are destined for node B. If the source address is not known, then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node B.” (Specification, Pg. 8, Line 33 – Pg. 9, Line 8).

Thus, Applicants’ specification clearly distinguishes between network nodes and end-nodes/end-stations, where end-nodes or end-stations of a data flow are the source and destination of the data flow.

Furthermore, Applicants’ claim 1 similarly distinguishes between network nodes and end-nodes, including limitations of “detecting a congestion condition at a network node in the network,” “sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition,” and “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.”

Thus, since Applicants’ specification and claims clearly distinguish between network nodes and end-nodes/end-stations, where end-nodes or end-stations of a data flow are the source and destination of the data flow, Applicants respectfully submit that the Examiner has interpreted Applicants’ claim 1 in an unreasonably broad manner that is inconsistent with Applicants’ specification and which fails to acknowledge the distinction between network nodes and end-nodes/end-stations.

In rejecting Applicants’ claim 1, the Examiner fails to acknowledge the distinction between network nodes and end-nodes that is present in Applicants’ claim 1.

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The Examiner cites the “generation source” node of Enomoto, asserting that the “generation source” node of Enomoto is the end-node as claimed in Applicants’ claim 1. As discussed in Enomoto, however, the “generation source” node of Enomoto (also referred to as a “notification generation node”) is a network node that generates a congestion notification and thus, is the source of the congestion notification. The “generation source” of Enomoto is not an end-node as recited in Applicants’ specification and Applicants’ claim 1. This is evident from the portions of Enomoto described hereinabove, as well as from the additional portion of Enomoto relied upon by the Examiner (namely, Para. 0406), each of which states that the “generation source” of Enomoto is the source of a congestion notification message (“ID of the generation source node”), not a source of a data flow. For example, Enomoto refers to “...a generation source of the congestion notification...” on multiple occasions. (Enomoto, Para. 0360, 0362). Thus, Applicants submit that the “generation source” of Enomoto is a network node, not an end-node as recited in Applicants’ specification and Applicants’ claim 1.

Thus, Applicants respectfully submit that, in view of the Examiner’s unreasonably broad interpretation of the term “end-node” in Applicants’ claim 1, and further in view of the teachings of Enomoto regarding the “generation source” node, the “generation source” node of Enomoto is not an “end-node” as claimed in Applicants’ claim 1.

Furthermore, Applicants note that the Examiner contradicts his own interpretation of the term “end-node” in applying rejections of Applicants’ dependent claims. For example, with respect to Applicants’ dependent claims 7, 8, 10, and 11, the Examiner interprets the “end-node” of Applicants’ claim 1 as a terminal such as a source terminal or destination terminal. Specifically, the Examiner states that “Kawakami mentions the congestion notification packet wherein a MAC address of a terminal (end-node) to which flow (data flow) control is to be applied....” (Office Action, Pg. 4). In other words, the Examiner interprets the term “end-node” one way when describing the rejection of Applicants’ claim 1 and then interprets the term “end-node” another way when describing the rejection of Applicants’ claims 7, 8, 10, and 11. The Examiner, by acknowledging in the rejection of claims 7, 8, 10, and 11 that the term “end-node” of Applicants’ claim 1 should be associated with an end terminal that is the source or destination of a data flow,

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further illustrates that the interpretation of “end-node” applied by the Examiner in rejecting Applicants’ claim 1 is unreasonable.

Thus, since the Examiner, in judging the patentability of Applicants’ claim 1 against Enomoto, has interpreted the limitations of Appellants’ claim 1 in an unreasonably broad manner that is inconsistent with Applicants’ specification, the Examiner’s arguments with respect to Enomoto cannot support a rejection of Applicants’ claim 1. Applicants submit that, using a proper interpretation of “end-node” of Applicants’ claim 1, Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicants’ claim 1.

As such, independent claim 1 is patentable under 35 U.S.C. 102(b) over Enomoto. Similarly, independent claims 17 and 18 recite relevant limitations similar to those recited in independent claim 1 and, at least for the same reasons discussed above, independent claims 17 and 18 also are patentable under 35 U.S.C. 102(b) over Enomoto. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is patentable under 35 U.S.C. 102(b) over Enomoto.

Therefore, the rejection should be withdrawn.

### **Rejection Under 35 U.S.C. 103(a)**

#### **Claims 4 and 5**

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Paul. The rejections are traversed.

Applicants note that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the

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additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

**Claims 7, 8, 10, and 11**

Claims 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami. The rejections are traversed.

Applicants note that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained. Therefore, the rejection should be withdrawn.

Applicants further note that the Examiner's arguments with respect to Applicants' claims 7, 8, 10, and 11 modify the Examiner's original arguments with respect to Applicants' claim 1 such that the rejection of Applicants' claim 1 cannot be maintained and, therefore, the rejection of Applicants' claims 7, 8, 10, and 11 cannot be maintained. In the Examiner's rejection of claim 1, the Examiner asserts that a network node of Enomoto is equivalent to the "end-node" of Applicants' claim 1. Then, in the Examiner's rejection of claims 7, 8, 10, and 11, the Examiner cites the "terminal" of Kawakami, asserting that the terminal of Kawakami is equivalent to the "end-node" of Applicants' claim 1. In other words, in applying a rejection of Applicants' claims 7, 8, 10, and 11, the Examiner applies a different definition of the term "end-node" than applied in the rejection of Applicants' claim 1. Applicants note that, by interpreting the "end-node" of Applicants' claim 1 as a network node in the rejection of claim 1, and then re-interpreting the "end-node" of Applicants' claim 1 as a terminal in the rejection of claims 7, 8, 10, and 11, the Examiner is improperly applying two different definitions to the same term. Thus, since the Examiner's rejection of Applicants' claim 1 is based on an improper interpretation of the term "end-node", the Examiner's rejection of claim 1 cannot be maintained and, therefore, the Examiner's rejection of Applicants' claims 7, 8, 10, and 11



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using a combination of Enomoto and Kawakami cannot be maintained. Furthermore, Applicants maintain that, as described hereinabove, the Examiner's interpretation of the term "end-node" as being one of the network nodes of Enomoto is unreasonably broad such that the Examiner's rejections of claim 1 cannot be maintained and, therefore, the Examiner's rejection of Applicants' claims 7, 8, 10, and 11 using a combination of Enomoto and Kawakami cannot be maintained.

Therefore, the rejections should be withdrawn.

### **Claim 12**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami, applied to claim 11, and in further view of Lee. The rejections are traversed.

Applicants note that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

### **Claims 13 and 14**

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami as applied to claims 11 and 13, and in further view of Bare. The rejections are traversed.

Applicants note that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.



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**Claims 15 and 16**

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Agrawal. The rejections are traversed.

Applicants note that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

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**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Michael Bentley or Eamon Wall at (732) 842-8110 x120 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: \_\_\_\_\_

4/30/09

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**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	5270842
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	04-MAY-2009
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	16:24:07
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
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**File Listing:**

<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
1		LCNT126709eFinalAmend5_4_09.pdf	641543 330433953ce6299836c684152030073e2a6b0045	yes	15

	Document Description	Start	End
	Amendment After Final	1	1
	Claims	2	4
	Applicant Arguments/Remarks Made in an Amendment	5	15

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	641543
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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed		
<b>APPLICATION AS FILED – PART I</b>											
(Column 1)			(Column 2)		SMALL ENTITY <input type="checkbox"/>		OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)					
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A		N/A						
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A		N/A						
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A						
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=	OR	X \$	=				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=				
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).										
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL					
<b>APPLICATION AS AMENDED – PART II</b>											
(Column 1)			(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT	05/04/2009	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)			
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	=	0	X \$	=	OR	X \$52=	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	=	0	X \$	=	OR	X \$220=	0
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))											
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0	
(Column 1)			(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)			
	Total (37 CFR 1.16(i))	*	Minus	**	=		X \$	=	OR	X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X \$	=	OR	X \$	=
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))											
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>											

Legal Instrument Examiner:  
/BRENDA WEBB/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	05/19/2009	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2416	
			MAIL DATE	DELIVERY MODE
			05/19/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Application/Control Number: 11/088,073  
 Art Unit: 2416

Page 2

### Remarks

Applicants suggest that Enomoto does not teach “congestion message comprises address information of at least one *end-node* associated with the congestion condition (remarks pg. 7 of 15, first paragraph).”

As a further clarification of the examiner’s interpretation:

First, Enomoto cites, for example:

“The second congestion control node A2 measures a transmission rate and a destination node number (or a flow number) of the frames which are supplied from the second client group C2 and which are transferred to the first one-way ring R11. Subsequently, the second congestion control node A2 calculates “the transmission rate ÷ the flow number” as the allowable output amount and transmits a congestion notification to the third congestion control node A3 using the second one-way ring R12 with the allowable output amount. It is herein assumed that the frame amount transferred from the second client group C2 to the first one-way ring R11 is equal to 2 megabits/sec. In this event, inasmuch as the destination node is equal to one of the first congestion control node A1, the second congestion control node A2 transmits, as the allowable output amount,  $2 \text{ megabits/sec} \div 1 = 2 \text{ megabits/sec}$ . [0295]”

Therefore, the A2 congestion control node receives packet flow from a client C2 (*end-node* or *source*) and the A2 calculates whether the flow from C2 is causing a congestion. Packets in a flow *must* have a source and destination address (emphasis added) for routing purposes in this case, the source address is the C2 end-node address.

Second, Enomoto further cites:

“The transfer direction determination part A11 <sup>\*\*</sup>(within A1-A4) has a function as follows. That is, the transfer direction determination part A11 receives, as received frames, frames from the first client group C1 <sup>\*\*</sup>(or any of C2-C4), the first congestion control part A13, and the second congestion control part A14. The transfer direction determination part A11 determines a destination node address for the received frames. The transfer direction determination part A11 transfers the received frames toward the first client group C1, the first congestion control node A13, and the second congestion control node A14 in accordance with description of the routing table A12. In addition, all

Application/Control Number: 11/088,073

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of frames going from the first one-way ring R11 to the second one-way ring R12, frames going the second one-way ring R12 to the first one-way ring R11, and frames where the first client group C1 \*\* (or any of C2-C4) is a destination or a sender go by way of the transfer direction determination part A11. [0123]" and;

"The estimating part 342 \*\* (within A1-A4) serves as a congestion flow estimation arrangement for estimating, with reference to the received congestion information and the routing table A12, as an estimated flow, a flow having the congestion level which is not less than a predetermined level in the transfer path in the destination. The congestion flow estimation arrangement produces an estimated result indicative of the estimated flow. The congestion flow estimation arrangement makes the estimated flow communication between the congestion control nodes on the network. The congestion flow estimation arrangement makes the estimated flow include communication between each of the congestion control nodes on the network and a client connected to the congestion control node in question. [0155]"

Therefore, a client (*end-node* or *source*) in question of causing a congestion is being accounted for and information is being recorded in a routing table wherein routing table *must* contain at least a source and destination address (emphasis added), including the client node in question.

Third, Enomoto also cites:

"...the congestion notification reception transfer part A134 identifies a congestion section from ID of the generation source node of notification and ID of the adjacent node for transferring the notification and estimates a flow passing through the congestion section using the routing table A12. [0406]"

Therefore, through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g. client C2 or any of C1, C3 or C4) since the routing table includes the source and destination addresses of the clients are recorded.



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Art Unit: 2416

In view of the above, the examiner believes that Enomoto does read on “congestion message comprises address information of at least one *end-node* associated with the congestion condition” as interpreted.

*/Xavier Szewai Wong/*

X.S.W

14<sup>th</sup> May 2009

*/Seema S. Rao/*

Supervisory Patent Examiner, Art Unit 2416

18<sup>th</sup> May 2009

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

11/088,073

Applicant(s)

MALHOTRA, RICHA

Examiner

Xavier Szewai Wong

Art Unit

2416

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 4<sup>th</sup> May 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1-8 and 10-18.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.  
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
13. ☒ Other: see remarks.

Serial No. 11/088,073

Page 1 of 15

Please Enter 05.14.09 /xsw/

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

**Inventor(s):** Richa Malhotra  
**Case:** R Malhotra 7 (ALU/126709)  
**Serial No.:** 11/088,073 **Group Art Unit:** 2416  
**Filed:** March 23, 2005  
**Examiner:** Wong, Xavier S **Confirmation #:** 7089  
**Title:** METHOD AND APPARATUS FOR FLOW CONTROL OF  
DATA IN A NETWORK

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**SIR:**

**RESPONSE AMENDMENT AFTER FINAL REJECTION**

In response to the final Office Action mailed March 4, 2009, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 50-4802/ALU/126709.

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<b>NOTICE OF APPEAL FROM THE EXAMINER TO THE BOARD OF PATENT APPEALS AND INTERFERENCES</b>		Docket Number (Optional)  Malhotra 7 (ALU/126709)
In re Application of Malhotra 7		
Application Number 11/088,073	Filed 3/23/05	
For METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		
Art Unit 2416	Examiner Xavier S. Wong	

Applicant hereby **appeals** to the Board of Patent Appeals and Interferences from the last decision of the examiner.

The fee for this Notice of Appeal is (37 CFR 41.20(b)(1)) \$ **540.00**

☐ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by half, and the resulting fee is: \$ \_\_\_\_\_

☐ A check in the amount of the fee is enclosed.

☒ Payment by credit card. The fee of **\$540** has been paid with the submission of this paper using the Patent Electronic Business Center. In the event of an additional fee, kindly charge that fee to Deposit Account No. 50-4802.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. \_\_\_\_\_.

☐ A petition for an extension of time under 37 CFR 1.136(a) (PTO/SB/22) is enclosed.


I am the

☐ applicant /inventor.

☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☒ attorney or agent of record.  
Registration number 39,414

☐ attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34. \_\_\_\_\_

  
 Signature  
 Eamon J. Wall  
 Typed or printed name  
 732-842-8110 X120  
 Telephone number  
 5-29-09  
 Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11088073			
<b>Filing Date:</b>	23-Mar-2005			
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network			
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra			
<b>Filer:</b>	Eamon J. Wall/Carol Wilson			
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709			
Filed as Large Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Notice of appeal	1401	1	540	540
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				540

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<b>EFS ID:</b>	5423275
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	29-MAY-2009
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	16:49:50
<b>Application Type:</b>	Utility under 35 USC 111(a)

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Notice of Appeal Filed	LCNT12709eNoticeofAppeal5_29_09.pdf	35901 d4265f80bf21f57cc9520cbb496e1b7bb8208452	no	1

**Warnings:****Information:**

2	Fee Worksheet (PTO-875)	fee-info.pdf	29945 b8f252fa18084cf53e36e2af2c33d9d27aaf745a	no	2
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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



Serial No. 11/088,073  
Page 1 of 57

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

**Inventor(s):** Richa Malhotra  
**Case:** R Malhotra 7 (ALU/126709)  
**Serial No.:** 11/088,073 **Group Art Unit:** 2416  
**Filed:** March 23, 2005  
**Examiner:** Wong, Xavier S **Confirmation #:** 7089  
**Title:** METHOD AND APPARATUS FOR FLOW CONTROL OF  
DATA IN A NETWORK

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COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**APPEAL BRIEF**

Appellant submits this appeal brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2613 mailed March 4, 2009 finally rejecting claims 1-8 and 10-18.

In the event that an extension of time is required for this appeal brief to be considered timely, and a petition therefor does not otherwise accompany this appeal brief, any necessary extension of time is hereby petitioned for.

Appellant believes the only fee due is the **\$540** Appeal Brief fee which is being charged to counsel's credit card. In the event Appellant is incorrect, the Commissioner is authorized to charge any other fees to Deposit Account No. 50-4802/**ALU/126709**.

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**REAL PARTY IN INTEREST**

The real party in interest is ALCATEL-LUCENT. The assignee of record is LUCENT TECHNOLOGIES INC, which merged with ALCATEL to form ALCATEL-LUCENT.

**RELATED APPEALS AND INTERFERENCES**

Appellant asserts that no appeals or interferences are known to Appellant, Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**STATUS OF CLAIMS**

Claims 1-8 and 10-18 are pending in the application. Claims 1-18 were originally presented in the application. Claims 1, 3, 10 and 12-18 have been amended. Claim 9 has been canceled. The final rejection of claims 1-8 and 10-18 is appealed.

Serial No. 11/088,073  
Page 6 of 57

**STATUS OF AMENDMENTS**

All claim amendments have been entered.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

Embodiments of the present invention include a method, computer readable medium, and apparatus for providing data flow control in a network using a congestion message.

In one embodiment, a method includes detecting a congestion condition at a network node in the network and sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition. The congestion message includes address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

In one embodiment, a computer readable medium contains a program which, when executed, performs a method including detecting a congestion condition at a network node in the network and sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition. The congestion message includes address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

In one embodiment, an apparatus includes means for detecting a congestion condition at a network node in the network and means for sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition. The congestion message includes address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

For the convenience of the Board of Patent Appeals and Interferences, Appellant's independent claims 1, 17, and 18 are presented below with citations to various figures and appropriate citations to at least one portion of the Specification for elements of the appealed claims.

Claim 1 positively recites (with reference numerals, where applicable, and cites to at least one portion of the Specification added):

1. (previously presented) A method (300) for data flow control in a network (100, 200), comprising: (FIGs. 1-3; Pg. 3, Lines 24 – 34; Pg. 4, Lines 1 – 24; Pg. 4, Line 34 – Pg. 5, Line 16)

detecting (303) a congestion condition at a network node (102) in the network (100, 200); and (Pg. 5, Line 17 – Pg. 6, Line 3; Pg. 6, Lines 28 – 33)

sending (304, 306, 308) a congestion message from the network node (102) at which the congestion condition is detected to one or more network nodes (102) upstream of the congestion condition; (Pg. 6, Lines 3 – 6; Pg. 6, Lines 25 – 27)

wherein said congestion message comprises address information of at least one end-node (102) associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition. (Pg. 6, Lines 6 – 22; Pg. 7, Line 1 – Pg. 8, Line 14; Pg. 8, Line 23 – Pg. 9, Line 8)

Claim 17 positively recites (with reference numerals, where applicable, and cites to at least one portion of the Specification added):

17. (previously presented) A computer readable medium (436) containing a program (432, 438) which, when executed, performs an operation of controlling data flow in a network (100, 200) comprising: (FIGs. 1-4; Pg. 3, Lines 24 – 34; Pg. 4, Lines 1 – 24; Pg. 4, Line 34 – Pg. 5, Line 16; Pg. 9, Lines 9 – 31)

detecting (303) a congestion condition at a network node (106) in the network; and (Pg. 5, Line 17 – Pg. 6, Line 3; Pg. 6, Lines 28 – 33)

sending (304, 306, 308) a congestion message from the network node (106) at which the congestion condition is detected to one or more network nodes (106) upstream of the congestion condition; (Pg. 6, Lines 3 – 6; Pg. 6, Lines 25 – 27)



wherein said congestion message comprises address information of at least one end-node (102) associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition. (Pg. 6, Lines 6 – 22; Pg. 7, Line 1 – Pg. 8, Line 14; Pg. 8, Line 23 – Pg. 9, Line 8)

Claim 18 positively recites (with reference numerals, where applicable, and cites to at least one portion of the Specification added):

18. (previously presented) Apparatus (102) for controlling flow of data in a network (100, 200) comprising: (FIGs. 1-4; Pg. 3, Lines 24 – 34; Pg. 4, Lines 1 – 24; Pg. 4, Line 34 – Pg. 5, Line 16; Pg. 9, Lines 9 – 31)

means for detecting (424) a congestion condition at a network node (102) in the network (100, 200); and (Pg. 5, Line 17 – Pg. 6, Line 3; Pg. 6, Lines 28 – 33)

means for sending (424) a congestion message from the network node (102) at which the congestion condition is detected to one or more network nodes (102) upstream of the congestion condition; (Pg. 6, Lines 3 – 6; Pg. 6, Lines 25 – 27)

wherein said congestion message comprises address information of at least one end-node (106) associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition. (Pg. 6, Lines 6 – 22; Pg. 7, Line 1 – Pg. 8, Line 14; Pg. 8, Line 23 – Pg. 9, Line 8)

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto et al. (US 2003/0076781 A1, hereinafter “Enomoto”).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Paul et al. (US 6,148,005, “Paul”).

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami et al. (US 2002/0136163 A1, hereinafter “Kawakami”).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami, applied to claim 11, and in further view of Lee et al. (U.S. Patent No. 6,636,510 B1, hereinafter “Lee”).

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami as applied to claims 11 and 13, and in further view of Bare (U.S. Patent No. 7,283,476 B2, hereinafter “Bare”).

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Agrawal et al (U.S. 2003/0081546 A1, hereinafter “Agrawal”).

## **ARGUMENTS**

### **I. Rejection of Claims 1, 2, 3, 6, 17 and 18 Under 35 U.S.C. 102(b)**

#### **A. Claims 1, 2, 3, and 6**

Claims 1, 2, 3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto. The rejection is traversed.

##### **1. Response to Rejection in Final Office Action**

Claims 1, 2, 3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto. The rejection is traversed.

Anticipation requires the presence in a single prior art disclosure of each and every element of the claim, arranged as in the claim.

Appellant respectfully submits that Enomoto fails to anticipate Appellant's claim 1, because Enomoto fails to disclose each and every element of Appellant's independent claim 1, as arranged in independent claim 1.

Namely, Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one *end-node* associated with the congestion condition," as claimed in Appellant's claim 1.

Enomoto discloses a congestion control system including a plurality of congestion control nodes A1 – A4 and a plurality of client groups C1 – C4. The congestion control nodes A1 – A4 communicate using a pair of unidirectional rings. Each client group C1 – C4 is associated with one of the congestion control nodes C1 – C4, respectively. Each client group includes one or more clients. (See Enomoto, Figure 1, Para. [0103] – [0107]).

As disclosed in Enomoto, a congestion control node, in response to detecting a congestion condition, generates a congestion notification and sends the congestion notification to other congestion control nodes. (See Enomoto, Abstract, Para. [0047]).

As further disclosed in Enomoto, the congestion notification includes an allowable bandwidth amount and the address/identifier of the congestion control node that generates the congestion notification.

Specifically, with respect to the congestion notification, Enomoto states that “[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node.” (Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that “[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender.” (Enomoto, Para. 398, Emphasis added).

In other words, Enomoto merely discloses a system in which a congestion notification includes an address of the node that generates and sends the congestion notification, which, in the system of Enomoto, is the congestion control node. Enomoto is devoid of any teaching or suggestion that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Appellant’s claim 1.

Thus, at least for these reasons, Appellant submits that Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 1.

## **2. Response to Examiner’s Arguments in Claim Rejections Section of Final Office Action**

In the Claim Rejections Section of the Final Office Action, the Examiner fails to establish that Enomoto anticipates Appellant’s claim 1, because the Examiner fails to address each and every limitation of Appellant’s claim 1.

Namely, in attempting to establish that that Enomoto anticipates Appellant’s claim 1, the Examiner appears to refer to a limitation that is not present in Appellant’s claim 1, while at the same time failing to address the relevant limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is present in Appellant’s claim 1.

Specifically, in attempting to map portions of Enomoto onto Appellant's claim 1, the Examiner states "...said congestion message adapted to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154], 156 & 158]); wherein address information is learned of at least one end-node associated with the congestion condition ([0402 & 406]; fig. 8)." (Final Office Action, Pg. 2 – 3).

First, Appellant notes that the limitation attributed to Appellant's claim 1 by the Examiner is not present in claim 1. Namely, claim 1 does not include a limitation of "wherein address information is learned of at least one end-node associated with the congestion condition."

Second, Appellant notes that, in explaining the rejection, the Examiner fails to address the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition" that is present in Appellant's claim 1. The Examiner does not even mention this limitation, much less cite portions of Enomoto which the Examiner believes disclose this limitation or provide reasoning as to how Enomoto may be considered to disclose this limitation.

Thus, at least for these reasons, Appellant submits that the Examiner has failed to establish that Enomoto anticipates Appellant's claim 1, because the Examiner fails to address each and every limitation of Appellant's claim 1.

Furthermore, Appellant notes that each of the portions of Enomoto cited by the Examiner in the Claim Rejections Section of the Final Office Action (namely, Para. [0154], [0156], [0158], [0402], and [0406]) fails to teach or suggest the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition," as claimed in Appellant's claim 1.

The first cited portion of Enomoto (Para. [0154]) describes the portions of a congestion control node that detect congestion and notify other congestion control nodes of the detected congestion. This portion is devoid of any teaching or suggestion regarding the content of a congestion notification, much less that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The second cited portion of Enomoto (Para. [0156]) states that a transfer processing part of a congestion control node acts as a determining arrangement for

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determining an estimated flow as a restriction candidate flow for restricting a transmission amount. This portion of Enomoto is devoid of any teaching or suggestion of the content of a congestion notification, much less that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The third cited portion of Enomoto (Para. [0158]) describes components of a congestion control node, and the associated operation of those components in generating a control command for instructing restriction of communication for other congestion control nodes and transmitting the control command to the other congestion control nodes. This portion is devoid of any teaching or suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The fourth cited portion of Enomoto (Para. [0402]) states that a congestion notification reception transfer part of a congestion control node “...refers the notification generation node address included in the congestion notification...” (Enomot, Para. [0402], Emphasis added). In other words, this portion of Enomoto, like other portions cited hereinabove, clearly indicates that the congestion notification includes the address of the node that generates the notification, i.e., a congestion control node. This portion is devoid of any teaching or suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The fifth cited portion of Enomoto (Para. [0406]) states that a congestion notification reception transfer part of a congestion control node “...identifies a congestion section from ID of the generation source node of notification...” (Enomot, Para. [0406], Emphasis added). In other words, this portion of Enomoto, like other portions cited hereinabove, clearly indicates that the congestion notification includes the address of the notification generation node which is the source of the congestion notification, i.e., a congestion control node. This portion is devoid of any teaching or suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

As described hereinabove, Enomoto clearly discloses that a congestion notification includes an address of the node that generates and sends the congestion notification which, in the system of Enomoto, is the congestion control node.

Thus, at least for these reasons, Appellant submits that Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 1.

**3. Response to Examiner’s Primary Argument in Response to Arguments Section of Final Office Action and Advisory Action**

In the Response to Arguments Section of the Final Office Action, the Examiner stated that “Enomoto does mention a congestion notification identifies ‘a congestion section from ID of the generation source (e.g. end-node) node of notification and ID of the adjacent node...[0406].’” (Final Office Action, Pg. 2). Then, in the Advisory Action, citing the same portion of Enomoto, the Examiner, citing that portion of Enomoto, concluded that “...through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the routing table includes the source and destination addresses of the clients are recorded.” (Advisory Action, Pg. 3).

In response, Appellant notes that, due to the Examiner’s failure to elaborate on the argument in the Final Office Action, Appellant first interpreted the Examiner’s statement in the Response to Arguments Section of the Final Office Action to be a statement that the congestion control node of Enomoto is an end-node as recited in Appellant’s claim 1. Thus, in Appellant’s Response, dated May 4, 2009, to the Final Office Action, Appellant addressed the Examiner’s statement in Response to Arguments Section of the Final Office Action by showing that the congestion control node of Enomoto is not an end-node as recited in Appellant’s claim 1. However, based on the additional arguments provided by the Examiner in the Advisory Action, Appellant submits that the Examiner’s statement in the Response to Arguments Section of the Final Office Action appears to have been an attempt by the Examiner to show that Enomoto discloses that an identifier of a source node (a client of Enomoto, which the Examiner appears to equate to an end-node of Appellant’s claim 1) is included in a congestion notification generated by a

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congestion control node. Appellant has not yet addressed this second interpretation of the Examiner's statement in the Response to Arguments Section of the Final Office Action.

As such, given the two different potential interpretations of the Examiner's arguments, for the purposes of completeness the Appellant addresses each of these two interpretations hereinbelow.

*Appellant's Response Based on First Interpretation of Primary Argument*

With respect to the first interpretation of the Examiner's arguments (assuming *arguendo* that this interpretation is the one which the Examiner intended), Appellant respectfully submits that the Examiner, in judging the patentability of Appellant's claim 1 against Enomoto, has interpreted the limitations of Appellant's claim 1 in an unreasonably broad manner that is inconsistent with Appellant's specification, and, thus, that the Examiner's arguments with respect to Enomoto cannot support a rejection of Appellant's claim 1.

Appellant notes that the standard for claim interpretation during the examination of a patent application is that "claims ... are to be given their broadest reasonable interpretation consistent with the specification, *and* ... claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1365; 70 U.S.P.Q. 2D (BNA) 1827 (Fed. Cir. 2004), citing *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990) and *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir.1999).

Appellant respectfully submits that the Examiner unreasonably generalizes the term "end-node" to include network nodes and then, on the basis of this unreasonable generalization, concludes that the congestion notification node of Enomoto discloses the end-node of Appellant's claim 1. Appellant respectfully submits that such an interpretation is improper and, thus, cannot support a rejection of Appellant's claim 1 in view of Enomoto.

Appellant notes that Appellant's application, including Appellant's specification, drawings, and claims, distinguishes between network nodes (identified in Appellant's application using reference number 102) and end-nodes (identified in Appellant's application using reference number 106).



Appellant's specification clearly distinguishes between network nodes and end-nodes.

For example, Appellant's specification states that:

"[t]he nodes 102<sub>N</sub> represent specific network devices such as bridges, switches, routers, and hubs/repeaters (not shown). Data generated by end users of the network devices 106 travels across the network 100 to other end users via the physical medium and the nodes, which perform the processing necessary to ensure the data arrives in a usable condition to the proper recipient.

[Appellant's Specification, Pg. 4, Lines 4-9]

Similarly, for example, Appellant's specification states that:

"[s]pecifically, the plurality of nodes 102<sub>N</sub> are linearly connected with the distinction of a break 108 (see FIG. 1) in network 100 being created to establish the new topology. In such a new topology, interconnecting links 104<sub>N</sub> continue to connect the plurality of nodes 102<sub>N</sub> with the exception of the link 104<sub>5-1</sub> that would otherwise join a fifth node 102<sub>5</sub> and the first node 102<sub>1</sub>. Network devices 106 are further represented as stations. In this particular example, and for sake of clarity, two such network devices or stations 106 are represented by call letters at each of the plurality of nodes 102<sub>N</sub>. Specifically, first node 102<sub>1</sub> is connected to stations A and B. Second node 102<sub>2</sub> is connected to stations C and D. Third node 102<sub>3</sub> is connected to stations E and F. Fourth node 102<sub>4</sub> is connected to stations G and H. Fifth node 102<sub>5</sub> is connected to stations I and J.

In a representative example, consider that data traffic is moving from one station to another station and sharing the nodes and interconnecting links with other data traffic moving to other stations along the same nodes and links."

[Appellant's Specification, Pg. 5, Lines 4 – 20]

Similarly, for example, Appellant's specification states that:

"[i]n a first example, if the congestion message contains only a destination address (e.g., the address of a end-node/end-station G), then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node G. In a second example, if the congestion message contains an source/destination address pair (e.g., the address of nodes AB), then the upstream node or controlling entity may drop all or a certain percentage of packets sourced from node A that are destined for node B. If the source address is not known, then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node B."

[Appellant's Specification, Pg. 8, Line 33 – Pg. 9, Line 8]

Appellant's drawings also distinguish between network nodes and end-nodes. Figure 1 depicts an exemplary network including network nodes 102 for facilitating communication between end-nodes 106. Similarly, Figure 2 depicts an exemplary network including network nodes 102 for facilitating communication between end-nodes/end-stations 106 associated with the network nodes 102.

Furthermore, Appellant's claim 1 similarly distinguishes between network nodes and end-nodes, including limitations of "detecting a congestion condition at a network node in the network," "sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition," and "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition."

Thus, since Appellant's specification, drawings, and claims clearly distinguish between network nodes and end-nodes, Appellant respectfully submits that the Examiner has interpreted Appellant's claim 1 in an unreasonably broad manner that is inconsistent with Appellant's specification and which fails to acknowledge the distinction between network nodes and end-nodes.

As discussed hereinabove, in rejecting Appellant's claim 1, the Examiner fails to acknowledge the distinction between network nodes and end-nodes that is present in Appellant's claim 1. More specifically, the Examiner cites the "generation source" node of Enomoto, asserting that the "generation source" node of Enomoto is the end-node as claimed in Appellant's claim 1. Appellant respectfully disagrees. First, Appellant submits that the "generation source" node of Enomoto referred to by the Examiner is the source of the congestion notification (also referred to as a "notification generation node"). This is evident from the portions of Enomoto described hereinabove, as well as from the additional portion of Enomoto relied upon by the Examiner (namely, Para. 0406), each of which states that the "generation source" of Enomoto is the source of a congestion notification message ("ID of the generation source node"). For example, Enomoto refers to "...a generation source of the congestion notification..." on multiple occasions. (See Enomoto, Para. 0360, 0362). Second, as noted hereinabove, Enomoto

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discloses that the source of the congestion notification is a congestion control node (See Enomoto, Abstract, Para. [0047]). Third, as noted hereinabove, Enomoto clearly indicates that the congestion control nodes of Enomoto are network nodes, not end-nodes. Thus, Appellant submits that the “generation source” of Enomoto referred to by the Examiner is a network node, not an end-node as recited in Appellant’s specification and Appellant’s claim 1.

In view of the Examiner’s unreasonably broad interpretation of the term “end-node” in Appellant’s claim 1, and further in view of the teachings of Enomoto regarding the “generation source” node, Appellant respectfully submits that the “generation source” node of Enomoto is not an “end-node” as claimed in Appellant’s claim 1 and, thus, that Enomoto fails to teach or suggest Appellant’s claim 1.

Thus, since the Examiner, in judging the patentability of Appellant’s claim 1 against Enomoto, has interpreted the limitations of Appellant’s claim 1 in an unreasonably broad manner that is inconsistent with Appellant’s specification, the Examiner’s arguments with respect to Enomoto cannot support a rejection of Appellant’s claim 1. Appellant submits that, using a proper interpretation of “end-node” of Appellant’s claim 1, Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 1.

*Appellant’s Response Based on Second Interpretation of Primary Argument*

With respect to the second interpretation of the Examiner’s arguments (assuming *arguendo* that this interpretation is the one which the Examiner intended), Appellant respectfully submits that the Examiner’s argument fails to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 1.

As noted hereinabove, in the Advisory Action the Examiner cites a portion of Enomoto and then concludes that “...through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the

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routing table includes the source and destination addresses of the clients are recorded.” (Advisory Action, Pg. 3). Appellant respectfully disagrees.

In response, Appellant submits the rejection of Appellant’s claim 1 on this basis cannot be maintained, because the Examiner’s reasoning is based on an improper parsing of Enomoto.

Contrary to the Examiner’s assertion, the portion of Enomoto cited by the Examiner does not reference an ID of a “generation source node.” Rather, the portion of Enomoto cited by the Examiner refers to an “ID of the generation source node of notification.” (See Enomoto, Para. [0406]). In other words, the Examiner, in an attempt to support his argument, impermissibly cites only a portion of the relevant term, failing to acknowledge the last portion of the term. The entire term in Enomoto is: “ID of the generation source node of notification.” Appellant submits that, taking the term as a whole, this portion of Enomoto is not referring to an identifier of the node that is the source of congestion (i.e., one of the clients); rather, this term, taken as a whole, clearly refers to the source of the congestion notification, which, as Enomoto clearly indicates, is a congestion control node.

This is confirmed by various other portions of Enomoto discussed hereinabove, such as where Enomoto states that “[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node” and that “[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender.” (Enomoto, Para. [0210] and [0398], Emphasis added).

Thus, contrary to the Examiner’s assertion, the entire term from the cited portion of Enomoto (i.e., “ID of the generation source node of notification”) does exclude the clients, because Enomoto clearly indicates that the source of a congestion notification is a congestion control node and that the congestion notification includes the ID of the congestion control node. Thus, Appellant submits that, since the Examiner’s reasoning is based on an improper parsing of Enomoto, the rejection of Appellant’s claim 1 on this basis cannot be maintained.

Thus, at least for these reasons, Appellant respectfully submits that the Examiner has failed to establish that Enomoto discloses the limitation of “wherein said congestion

message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 1.

#### **4. Response to Examiner’s Additional Arguments in Advisory Action**

In the Advisory Action, the Examiner provides additional arguments in support of the assertion that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 1. Appellant respectfully disagrees.

First, the Examiner cites a portion of Enomoto and then concludes that “...the A2 congestion control node receives packet flow from a client C2 (*end-node* or *source*) and the A2 calculates whether the flow from C2 is causing a congestion. Packets in a flow must have a source and destination address (emphasis added) for routing purposes in this case, the source address is the C2 end-node address.” (Advisory Action, Pg. 2).

In response, Appellant notes that the Examiner’s conclusion fails to address the relevant limitation of Appellant’s claim 1. The Examiner’s argument fails to establish, or even assert for that matter, that a congestion notification generated by the congestion control node A2 comprises address information of client C2. Rather, the Examiner’s argument merely asserts that packets of a packet flow originating from C2 include a source address of C2. The fact that packets of a packet flow from C2 include a source address of C2 (assuming *arguendo* that the cited portion of Enomoto does indeed teach this) in no way teaches or suggests inclusion of a source address of C2 in a congestion notification generated by congestion control node A2. Additionally, Appellant notes that the portion of Enomoto cited by the Examiner in support of this argument (namely, Para. [0295]) is devoid of any teaching or suggestion that the congestion notification generated by congestion control node A2 includes a source address of client C2. The cited portion of Enomoto is silent regarding the content of the congestion notification; rather, the cited portion merely includes a general statement indicating that congestion control node A2 transmits a congestion notification to congestion control node A3. Thus, the cited portion of Enomoto, and the Examiner’s associated arguments, fail to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address

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information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 1.

Second, the Examiner cites a portion of Enomoto and then concludes that “...a client (*end-node* or *source*) in question of causing a congestion is being accounted for and information is being recorded in a routing table wherein routing table *must* contain at least a source and destination address (emphasis added), including the client node in question.” (Advisory Action, Pg. 3).

In response, Appellant notes that, again, the Examiner’s conclusion fails to address the relevant limitation of Appellant’s claim 1. The Examiner’s argument fails to establish, or even assert for that matter, that a congestion notification generated by the congestion control node A2 comprises address information of client C2. Rather, the Examiner’s argument merely asserts that a client in question of causing congestion is being accounted for in a routing table. The fact that a client is accounted for in a routing table (assuming *arguendo* that the cited portion of Enomoto does indeed teach this) in no way teaches or suggests inclusion of a source address of a client in a congestion notification generated by congestion control node. Similarly, the fact that a routing table includes address information for a client in no way teaches or suggests inclusion of a source address of client in a congestion notification generated by congestion control node. Additionally, Appellant notes that the portion of Enomoto cited by the Examiner in support of this argument (namely, Para. [0123] and [0155]) is devoid of any teaching or suggestion that the congestion notification generated by a congestion control node includes a source address of a client. The cited portion of Enomoto is silent regarding the content of the congestion notification; rather, the cited portion merely includes a general statement indicating that congestion control node A2 transmits a congestion notification to congestion control node A3. Thus, the cited portion of Enomoto, and the Examiner’s associated arguments, clearly fail to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 1.

Third, as noted hereinabove in Appellant’s response to the Examiner’s primary argument, the Examiner cites a portion of Enomoto and then concludes that “...through the routing table, a congestion notification reception transfer part identifies an ID of a

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congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the routing table includes the source and destination addresses of the clients are recorded.” (Advisory Action, Pg. 3). Appellant has shown hereinabove that the Examiner has failed to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 1.

Thus, these additional arguments provided by the Examiner in the Advisory Action fail to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 1.

### **5. Conclusion**

Thus, Appellant submits that Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 1.

As such, independent claim 1 is patentable under 35 U.S.C. 102(b) over Enomoto. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is patentable under 35 U.S.C. 102(b) over Enomoto.

Therefore, the rejection should be withdrawn.

### **B. Claim 17**

Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto. The rejection is traversed.

Appellant’s independent claim 17 includes limitations similar to the limitations of Appellant’s independent claim 1. As described hereinabove, Enomoto fails to teach or suggest all of the elements of Appellant’s independent claim 1. Accordingly, Appellant



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respectfully submits that Enomoto also fails to teach or suggest all of the elements of Appellant's independent claim 17.

Thus, Appellant submits that Appellant's independent claim 17 is allowable over Enomoto at least for the same reasons provided hereinabove with respect to Appellant's independent claim 1. Appellant discuss these reasons again hereinbelow with respect to Appellant's independent claim 17.

**1. Response to Rejection in Final Office Action**

Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto. The rejection is traversed.

Anticipation requires the presence in a single prior art disclosure of each and every element of the claim, arranged as in the claim.

Appellant respectfully submits that Enomoto fails to anticipate Appellant's claim 17, because Enomoto fails to disclose each and every element of Appellant's independent claim 17, as arranged in independent claim 17.

Namely, Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one *end-node* associated with the congestion condition," as claimed in Appellant's claim 17.

Enomoto discloses a congestion control system including a plurality of congestion control nodes A1 – A4 and a plurality of client groups C1 – C4. The congestion control nodes A1 – A4 communicate using a pair of unidirectional rings. Each client group C1 – C4 is associated with one of the congestion control nodes C1 – C4, respectively. Each client group includes one or more clients. (See Enomoto, Figure 1, Para. [0103] – [0107]).

As disclosed in Enomoto, a congestion control node, in response to detecting a congestion condition, generates a congestion notification and sends the congestion notification to other congestion control nodes. (See Enomoto, Abstract, Para. [0047]).

As further disclosed in Enomoto, the congestion notification includes an allowable bandwidth amount and the address/identifier of the congestion control node that generates the congestion notification.



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Specifically, with respect to the congestion notification, Enomoto states that “[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node.” (Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that “[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender.” (Enomoto, Para. 398, Emphasis added).

In other words, Enomoto merely discloses a system in which a congestion notification includes an address of the node that generates and sends the congestion notification, which, in the system of Enomoto, is the congestion control node. Enomoto is devoid of any teaching or suggestion that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Appellant’s claim 17.

Thus, at least for these reasons, Appellant submits that Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 17.

## **2. Response to Examiner’s Arguments in Claim Rejections Section of Final Office Action**

In the Claim Rejections Section of the Final Office Action, the Examiner fails to establish that Enomoto anticipates Appellant’s claim 17, because the Examiner fails to address each and every limitation of Appellant’s claim 17.

Namely, in attempting to establish that that Enomoto anticipates Appellant’s claim 17, the Examiner appears to refer to a limitation that is not present in Appellant’s claim 17, while at the same time failing to address the relevant limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is present in Appellant’s claim 17.

Specifically, in attempting to map portions of Enomoto onto Appellant’s claim 17, the Examiner states “...said congestion message adapted to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154],

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156 & 158]); wherein address information is learned of at least one end-node associated with the congestion condition ([0402 & 406]; fig. 8).” (Final Office Action, Pg. 2 – 3).

First, Appellant notes that the limitation attributed to Appellant’s claim 17 by the Examiner is not present in claim 17. Namely, claim 17 does not include a limitation of “wherein address information is learned of at least one end-node associated with the congestion condition.”

Second, Appellant notes that, in explaining the rejection, the Examiner fails to address the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is present in Appellant’s claim 17. The Examiner does not even mention this limitation, much less cite portions of Enomoto which the Examiner believes disclose this limitation or provide reasoning as to how Enomoto may be considered to disclose this limitation.

Thus, at least for these reasons, Appellant submits that the Examiner has failed to establish that Enomoto anticipates Appellant’s claim 17, because the Examiner fails to address each and every limitation of Appellant’s claim 17.

Furthermore, Appellant notes that each of the portions of Enomoto cited by the Examiner in the Claim Rejections Section of the Final Office Action (namely, Para. [0154], [0156], [0158], [0402], and [0406]) fails to teach or suggest the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 17.

The first cited portion of Enomoto (Para. [0154]) describes the portions of a congestion control node that detect congestion and notify other congestion control nodes of the detected congestion. This portion is devoid of any teaching or suggestion regarding the content of a congestion notification, much less that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The second cited portion of Enomoto (Para. [0156]) states that a transfer processing part of a congestion control node acts as a determining arrangement for determining an estimated flow as a restriction candidate flow for restricting a transmission amount. This portion is devoid of any teaching or suggestion of the content

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of a congestion notification, much less that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The third cited portion of Enomoto (Para. [0158]) describes components of a congestion control node, and the associated operation of those components in generating a control command for instructing restriction of communication for other congestion control nodes and transmitting the control command to the other congestion control nodes. This portion is devoid of any teaching or suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The fourth cited portion of Enomoto (Para. [0402]) states that a congestion notification reception transfer part of a congestion control node “...refers the notification generation node address included in the congestion notification...” (Enomot, Para. [0402], Emphasis added). In other words, this portion of Enomoto, like other portions cited hereinabove, clearly indicates that the congestion notification includes the address of the node that generates the notification, i.e., a congestion control node. This portion is devoid of any teaching or suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The fifth cited portion of Enomoto (Para. [0406]) states that a congestion notification reception transfer part of a congestion control node “...identifies a congestion section from ID of the generation source node of notification...” (Enomot, Para. [0406], Emphasis added). In other words, this portion of Enomoto, like other portions cited hereinabove, clearly indicates that the congestion notification includes the address of the notification generation node which is the source of the congestion notification, i.e., a congestion control node. This portion is devoid of any teaching or suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

As described hereinabove, Enomoto clearly discloses that a congestion notification includes an address of the node that generates and sends the congestion notification which, in the system of Enomoto, is the congestion control node.

Thus, at least for these reasons, Appellant submits that Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address

information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 17.

**3. Response to Examiner’s Primary Argument in Response to Arguments Section of Final Office Action and Advisory Action**

In the Response to Arguments Section of the Final Office Action, the Examiner stated that “Enomoto does mention a congestion notification identifies ‘a congestion section from ID of the generation source (e.g. end-node) node of notification and ID of the adjacent node...[0406].” (Final Office Action, Pg. 2). Then, in the Advisory Action, citing the same portion of Enomoto, the Examiner, citing that portion of Enomoto, concluded that “...through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the routing table includes the source and destination addresses of the clients are recorded.” (Advisory Action, Pg. 3).

In response, Appellant notes that, due to the Examiner’s failure to elaborate on the argument in the Final Office Action, Appellant first interpreted the Examiner’s statement in the Response to Arguments Section of the Final Office Action to be a statement that the congestion control node of Enomoto is an end-node as recited in Appellant’s claim 17. Thus, in Appellant’s Response, dated May 4, 2009, to the Final Office Action, Appellant addressed the Examiner’s statement in Response to Arguments Section of the Final Office Action by showing that the congestion control node of Enomoto is not an end-node as recited in Appellant’s claim 17. However, based on the additional arguments provided by the Examiner in the Advisory Action, Appellant submits that the Examiner’s statement in the Response to Arguments Section of the Final Office Action appears to have been an attempt by the Examiner to show that Enomoto discloses that an identifier of a source node (a client of Enomoto, which the Examiner appears to equate to an end-node of Appellant’s claim 17) is included in a congestion notification generated by a congestion control node. Appellant has not yet addressed this second interpretation of the Examiner’s statement in the Response to Arguments Section of the Final Office Action.

As such, given the two different potential interpretations of the Examiner's arguments, for the purposes of completeness the Appellant addresses each of these two interpretations hereinbelow.

*Appellant's Response Based on First Interpretation of Primary Argument*

With respect to the first interpretation of the Examiner's arguments (assuming *arguendo* that this interpretation is the one which the Examiner intended), Appellant respectfully submits that the Examiner, in judging the patentability of Appellant's claim 17 against Enomoto, has interpreted the limitations of Appellant's claim 17 in an unreasonably broad manner that is inconsistent with Appellant's specification, and, thus, that the Examiner's arguments with respect to Enomoto cannot support a rejection of Appellant's claim 17.

Appellant notes that the standard for claim interpretation during the examination of a patent application is that "claims ... are to be given their broadest reasonable interpretation consistent with the specification, *and* ... claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1365; 70 U.S.P.Q. 2D (BNA) 1827 (Fed. Cir. 2004), citing *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990) and *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir.1999).

Appellant respectfully submits that the Examiner unreasonably generalizes the term "end-node" to include network nodes and then, on the basis of this unreasonable generalization, concludes that the congestion notification node of Enomoto discloses the end-node of Appellant's claim 17. Appellant respectfully submits that such an interpretation is improper and, thus, cannot support a rejection of Appellant's claim 17 in view of Enomoto.

Appellant notes that Appellant's application, including Appellant's specification, drawings, and claims, distinguishes between network nodes (identified in Appellant's application using reference number 102) and end-nodes (identified in Appellant's application using reference number 106).

Appellant's specification clearly distinguishes between network nodes and end-nodes.

For example, Appellant's specification states that:

"[t]he nodes 102<sub>N</sub> represent specific network devices such as bridges, switches, routers, and hubs/repeaters (not shown). Data generated by end users of the network devices 106 travels across the network 100 to other end users via the physical medium and the nodes, which perform the processing necessary to ensure the data arrives in a usable condition to the proper recipient.

[Appellant's Specification, Pg. 4, Lines 4-9]

Similarly, for example, Appellant's specification states that:

"[s]pecifically, the plurality of nodes 102<sub>N</sub> are linearly connected with the distinction of a break 108 (see FIG. 1) in network 100 being created to establish the new topology. In such a new topology, interconnecting links 104<sub>N</sub> continue to connect the plurality of nodes 102<sub>N</sub> with the exception of the link 104<sub>5-1</sub> that would otherwise join a fifth node 102<sub>5</sub> and the first node 102<sub>1</sub>. Network devices 106 are further represented as stations. In this particular example, and for sake of clarity, two such network devices or stations 106 are represented by call letters at each of the plurality of nodes 102<sub>N</sub>. Specifically, first node 102<sub>1</sub> is connected to stations A and B. Second node 102<sub>2</sub> is connected to stations C and D. Third node 102<sub>3</sub> is connected to stations E and F. Fourth node 102<sub>4</sub> is connected to stations G and H. Fifth node 102<sub>5</sub> is connected to stations I and J.

In a representative example, consider that data traffic is moving from one station to another station and sharing the nodes and interconnecting links with other data traffic moving to other stations along the same nodes and links."

[Appellant's Specification, Pg. 5, Lines 4 – 20]

Similarly, for example, Appellant's specification states that:

"[i]n a first example, if the congestion message contains only a destination address (e.g., the address of a end-node/end-station G), then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node G. In a second example, if the congestion message contains an source/destination address pair (e.g., the address of nodes AB), then the upstream node or controlling entity may drop all or a certain percentage of packets sourced from node A that are destined for node B. If the source address is not known, then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node B."

[Appellant's Specification, Pg. 8, Line 33 – Pg. 9, Line 8]

Appellant's drawings also distinguish between network nodes and end-nodes. Figure 1 depicts an exemplary network including network nodes 102 for facilitating communication between end-nodes 106. Similarly, Figure 2 depicts an exemplary

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network including network nodes 102 for facilitating communication between end-nodes/end-stations 106 associated with the network nodes 102.

Furthermore, Appellant's claim 17 similarly distinguishes between network nodes and end-nodes, including limitations of "detecting a congestion condition at a network node in the network," "sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition," and "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition."

Thus, since Appellant's specification, drawings, and claims clearly distinguish between network nodes and end-nodes, Appellant respectfully submits that the Examiner has interpreted Appellant's claim 17 in an unreasonably broad manner that is inconsistent with Appellant's specification and which fails to acknowledge the distinction between network nodes and end-nodes.

As discussed hereinabove, in rejecting Appellant's claim 17, the Examiner fails to acknowledge the distinction between network nodes and end-nodes that is present in Appellant's claim 17. More specifically, the Examiner cites the "generation source" node of Enomoto, asserting that the "generation source" node of Enomoto is the end-node as claimed in Appellant's claim 17. Appellant respectfully disagrees. First, Appellant submits that the "generation source" node of Enomoto referred to by the Examiner is the source of the congestion notification (also referred to as a "notification generation node"). This is evident from the portions of Enomoto described hereinabove, as well as from the additional portion of Enomoto relied upon by the Examiner (namely, Para. 0406), each of which states that the "generation source" of Enomoto is the source of a congestion notification message ("ID of the generation source node"). For example, Enomoto refers to "...a generation source of the congestion notification..." on multiple occasions. (See Enomoto, Para. 0360, 0362). Second, as noted hereinabove, Enomoto discloses that the source of the congestion notification is a congestion control node (See Enomoto, Abstract, Para. [0047]). Third, as noted hereinabove, Enomoto clearly indicates that the congestion control nodes of Enomoto are network nodes, not end-nodes. Thus,



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Appellant submits that the “generation source” of Enomoto referred to by the Examiner is a network node, not an end-node as recited in Appellant’s specification and Appellant’s claim 17.

In view of the Examiner’s unreasonably broad interpretation of the term “end-node” in Appellant’s claim 17, and further in view of the teachings of Enomoto regarding the “generation source” node, Appellant respectfully submits that the “generation source” node of Enomoto is not an “end-node” as claimed in Appellant’s claim 17 and, thus, that Enomoto fails to teach or suggest Appellant’s claim 17.

Thus, since the Examiner, in judging the patentability of Appellant’s claim 17 against Enomoto, has interpreted the limitations of Appellant’s claim 17 in an unreasonably broad manner that is inconsistent with Appellant’s specification, the Examiner’s arguments with respect to Enomoto cannot support a rejection of Appellant’s claim 17. Appellant submits that, using a proper interpretation of “end-node” of Appellant’s claim 17, Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 17.

*Appellant’s Response Based on Second Interpretation of Primary Argument*

With respect to the second interpretation of the Examiner’s arguments (assuming *arguendo* that this interpretation is the one which the Examiner intended), Appellant respectfully submits that the Examiner’s argument fails to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 17.

As noted hereinabove, in the Advisory Action the Examiner cites a portion of Enomoto and then concludes that “...through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the routing table includes the source and destination addresses of the clients are recorded.” (Advisory Action, Pg. 3). Appellant respectfully disagrees.



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In response, Appellant submits the rejection of Appellant's claim 17 on this basis cannot be maintained, because the Examiner's reasoning is based on an improper parsing of Enomoto.

Contrary to the Examiner's assertion, the portion of Enomoto cited by the Examiner does not reference an ID of a "generation source node." Rather, the portion of Enomoto cited by the Examiner refers to an "ID of the generation source node of notification." (See Enomoto, Para. [0406]). In other words, the Examiner, in an attempt to support his argument, impermissibly cites only a portion of the relevant term, failing to acknowledge the last portion of the term. The entire term in Enomoto is: "ID of the generation source node of notification." Appellant submits that, taking the term as a whole, this portion of Enomoto is not referring to an identifier of the node that is the source of congestion (i.e., one of the clients); rather, this term, taken as a whole, clearly refers to the source of the congestion notification, which, as Enomoto clearly indicates, is a congestion control node.

This is confirmed by various other portions of Enomoto discussed hereinabove, such as where Enomoto states that "[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node" and that "[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender." (Enomoto, Para. [0210] and [0398], Emphasis added).

Thus, contrary to the Examiner's assertion, the entire term from the cited portion of Enomoto (i.e., "ID of the generation source node of notification") does exclude the clients, because Enomoto clearly indicates that the source of a congestion notification is a congestion control node and that the congestion notification includes the ID of the congestion control node. Thus, Appellant submits that, since the Examiner's reasoning is based on an improper parsing of Enomoto, the rejection of Appellant's claim 17 on this basis cannot be maintained.

Thus, at least for these reasons, Appellant respectfully submits that the Examiner has failed to establish that Enomoto discloses the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition" that is recited in Appellant's claim 17.

**4. Response to Examiner's Additional Arguments in Advisory Action**

In the Advisory Action, the Examiner provides additional arguments in support of the assertion that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 17. Appellant respectfully disagrees.

First, the Examiner cites a portion of Enomoto and then concludes that “...the A2 congestion control node receives packet flow from a client C2 (*end-node* or *source*) and the A2 calculates whether the flow from C2 is causing a congestion. Packets in a flow must have a source and destination address (emphasis added) for routing purposes in this case, the source address is the C2 end-node address.” (Advisory Action, Pg. 2).

In response, Appellant notes that the Examiner’s conclusion fails to address the relevant limitation of Appellant’s claim 17. The Examiner’s argument fails to establish, or even assert for that matter, that a congestion notification generated by the congestion control node A2 comprises address information of client C2. Rather, the Examiner’s argument merely asserts that packets of a packet flow originating from C2 include a source address of C2. The fact that packets of a packet flow from C2 include a source address of C2 (assuming *arguendo* that the cited portion of Enomoto does indeed teach this) in no way teaches or suggests inclusion of a source address of C2 in a congestion notification generated by congestion control node A2. Additionally, Appellant notes that the portion of Enomoto cited by the Examiner in support of this argument (namely, Para. [0295]) is devoid of any teaching or suggestion that the congestion notification generated by congestion control node A2 includes a source address of client C2. The cited portion of Enomoto is silent regarding the content of the congestion notification; rather, the cited portion merely includes a general statement indicating that congestion control node A2 transmits a congestion notification to congestion control node A3. Thus, the cited portion of Enomoto, and the Examiner’s associated arguments, fail to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 17.

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Second, the Examiner cites a portion of Enomoto and then concludes that "...a client (*end-node* or *source*) in question of causing a congestion is being accounted for and information is being recorded in a routing table wherein routing table *must* contain at least a source and destination address (emphasis added), including the client node in question." (Advisory Action, Pg. 3).

In response, Appellant notes that, again, the Examiner's conclusion fails to address the relevant limitation of Appellant's claim 17. The Examiner's argument fails to establish, or even assert for that matter, that a congestion notification generated by the congestion control node A2 comprises address information of client C2. Rather, the Examiner's argument merely asserts that a client in question of causing congestion is being accounted for in a routing table. The fact that a client is accounted for in a routing table (assuming *arguendo* that the cited portion of Enomoto does indeed teach this) in no way teaches or suggests inclusion of a source address of a client in a congestion notification generated by congestion control node. Similarly, the fact that a routing table includes address information for a client in no way teaches or suggests inclusion of a source address of client in a congestion notification generated by congestion control node. Additionally, Appellant notes that the portion of Enomoto cited by the Examiner in support of this argument (namely, Para. [0123] and [0155]) is devoid of any teaching or suggestion that the congestion notification generated by a congestion control node includes a source address of a client. The cited portion of Enomoto is silent regarding the content of the congestion notification; rather, the cited portion merely includes a general statement indicating that congestion control node A2 transmits a congestion notification to congestion control node A3. Thus, the cited portion of Enomoto, and the Examiner's associated arguments, clearly fail to establish that Enomoto discloses the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition" that is recited in Appellant's claim 17.

Third, as noted hereinabove in Appellant's response to the Examiner's primary argument, the Examiner cites a portion of Enomoto and then concludes that "...through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the routing table includes the source and

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destination addresses of the clients are recorded.” (Advisory Action, Pg. 3). Appellant has shown hereinabove that the Examiner has failed to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 17.

Thus, these additional arguments provided by the Examiner in the Advisory Action fail to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 17.

### **5. Conclusion**

Thus, Appellant submits that Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 17.

As such, independent claim 17 is patentable under 35 U.S.C. 102(b) over Enomoto. Therefore, the rejection should be withdrawn.

### **C. Claim 18**

Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto. The rejection is traversed.

Appellant’s independent claim 17 includes limitations similar to the limitations of Appellant’s independent claim 1. As described hereinabove, Enomoto fails to teach or suggest all of the elements of Appellant’s independent claim 1. Accordingly, Appellant respectfully submits that Enomoto also fails to teach or suggest all of the elements of Appellant’s independent claim 17.

Thus, Appellant submits that Appellant’s independent claim 17 is allowable over Enomoto at least for the same reasons provided hereinabove with respect to Appellant’s independent claim 1. Appellant discuss these reasons again hereinbelow with respect to Appellant’s independent claim 17.

**1. Response to Rejection in Final Office Action**

Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto. The rejection is traversed.

Anticipation requires the presence in a single prior art disclosure of each and every element of the claim, arranged as in the claim.

Appellant respectfully submits that Enomoto fails to anticipate Appellant's claim 18, because Enomoto fails to disclose each and every element of Appellant's independent claim 1, as arranged in independent claim 18.

Namely, Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one *end-node* associated with the congestion condition," as claimed in Appellant's claim 18.

Enomoto discloses a congestion control system including a plurality of congestion control nodes A1 – A4 and a plurality of client groups C1 – C4. The congestion control nodes A1 – A4 communicate using a pair of unidirectional rings. Each client group C1 – C4 is associated with one of the congestion control nodes C1 – C4, respectively. Each client group includes one or more clients. (See Enomoto, Figure 1, Para. [0103] – [0107]).

As disclosed in Enomoto, a congestion control node, in response to detecting a congestion condition, generates a congestion notification and sends the congestion notification to other congestion control nodes. (See Enomoto, Abstract, Para. [0047]).

As further disclosed in Enomoto, the congestion notification includes an allowable bandwidth amount and the address/identifier of the congestion control node that generates the congestion notification.

Specifically, with respect to the congestion notification, Enomoto states that "[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node." (Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that "[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender." (Enomoto, Para. 398, Emphasis added).

In other words, Enomoto merely discloses a system in which a congestion notification includes an address of the node that generates and sends the congestion notification, which, in the system of Enomoto, is the congestion control node. Enomoto is devoid of any teaching or suggestion that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Appellant's claim 18.

Thus, at least for these reasons, Appellant submits that Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition," as claimed in Appellant's claim 18.

**2. Response to Examiner's Arguments in Claim Rejections Section of Final Office Action**

In the Claim Rejections Section of the Final Office Action, the Examiner fails to establish that Enomoto anticipates Appellant's claim 18, because the Examiner fails to address each and every limitation of Appellant's claim 18.

Namely, in attempting to establish that that Enomoto anticipates Appellant's claim 18, the Examiner appears to refer to a limitation that is not present in Appellant's claim 18, while at the same time failing to address the relevant limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition" that is present in Appellant's claim 18.

Specifically, in attempting to map portions of Enomoto onto Appellant's claim 18, the Examiner states "...said congestion message adapted to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154], 156 & 158]); wherein address information is learned of at least one end-node associated with the congestion condition ([0402 & 406]; fig. 8)." (Final Office Action, Pg. 2 – 3).

First, Appellant notes that the limitation attributed to Appellant's claim 18 by the Examiner is not present in claim 18. Namely, claim 18 does not include a limitation of "wherein address information is learned of at least one end-node associated with the congestion condition."

Second, Appellant notes that, in explaining the rejection, the Examiner fails to address the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is present in Appellant’s claim 18. The Examiner does not even mention this limitation, much less cite portions of Enomoto which the Examiner believes disclose this limitation or provide reasoning as to how Enomoto may be considered to disclose this limitation.

Thus, at least for these reasons, Appellant submits that the Examiner has failed to establish that Enomoto anticipates Appellant’s claim 18, because the Examiner fails to address each and every limitation of Appellant’s claim 18.

Furthermore, Appellant notes that each of the portions of Enomoto cited by the Examiner in the Claim Rejections Section of the Final Office Action (namely, Para. [0154], [0156], [0158], [0402], and [0406]) fails to teach or suggest the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 18.

The first cited portion of Enomoto (Para. [0154]) describes the portions of a congestion control node that detect congestion and notify other congestion control nodes of the detected congestion. This portion is devoid of any teaching or suggestion regarding the content of a congestion notification, much less that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The second cited portion of Enomoto (Para. [0156]) states that a transfer processing part of a congestion control node acts as a determining arrangement for determining an estimated flow as a restriction candidate flow for restricting a transmission amount. This portion is devoid of any teaching or suggestion of the content of a congestion notification, much less that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The third cited portion of Enomoto (Para. [0158]) describes additional components of a congestion control node, and the associated operation of those components in generating a control command for instructing restriction of communication for other congestion control nodes and transmitting the control command to the other congestion control nodes. This portion is devoid of any teaching or



suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The fourth cited portion of Enomoto (Para. [0402]) states that a congestion notification reception transfer part of a congestion control node "...refers the notification generation node address included in the congestion notification...." (Enomoto, Para. [0402], Emphasis added). In other words, this portion of Enomoto, like other portions cited hereinabove, clearly indicates that the congestion notification includes the address of the node that generates the notification, i.e., a congestion control node. This portion is devoid of any teaching or suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

The fifth cited portion of Enomoto (Para. [0406]) states that a congestion notification reception transfer part of a congestion control node "...identifies a congestion section from ID of the generation source node of notification...." (Enomoto, Para. [0406], Emphasis added). In other words, this portion of Enomoto, like other portions cited hereinabove, clearly indicates that the congestion notification includes the address of the notification generation node which is the source of the congestion notification, i.e., a congestion control node. This portion is devoid of any teaching or suggestion that a congestion notification includes address information of at least one end-node associated with the congestion condition.

As described hereinabove, Enomoto clearly discloses that a congestion notification includes an address of the node that generates and sends the congestion notification which, in the system of Enomoto, is the congestion control node.

Thus, at least for these reasons, Appellant submits that Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition," as claimed in Appellant's claim 18.

### **3. Response to Examiner's Primary Argument in Response to Arguments Section of Final Office Action and Advisory Action**

In the Response to Arguments Section of the Final Office Action, the Examiner stated that "Enomoto does mention a congestion notification identifies 'a congestion



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section from ID of the generation source (e.g. end-node) node of notification and ID of the adjacent node...[0406].” (Final Office Action, Pg. 2). Then, in the Advisory Action, citing the same portion of Enomoto, the Examiner, citing that portion of Enomoto, concluded that “...through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the routing table includes the source and destination addresses of the clients are recorded.” (Advisory Action, Pg. 3).

In response, Appellant notes that, due to the Examiner’s failure to elaborate on the argument in the Final Office Action, Appellant first interpreted the Examiner’s statement in the Response to Arguments Section of the Final Office Action to be a statement that the congestion control node of Enomoto is an end-node as recited in Appellant’s claim 18. Thus, in Appellant’s Response, dated May 4, 2009, to the Final Office Action, Appellant addressed the Examiner’s statement in Response to Arguments Section of the Final Office Action by showing that the congestion control node of Enomoto is not an end-node as recited in Appellant’s claim 18. However, based on the additional arguments provided by the Examiner in the Advisory Action, Appellant submits that the Examiner’s statement in the Response to Arguments Section of the Final Office Action appears to have been an attempt by the Examiner to show that Enomoto discloses that an identifier of a source node (a client of Enomoto, which the Examiner appears to equate to an end-node of Appellant’s claim 18) is included in a congestion notification generated by a congestion control node. Appellant has not yet addressed this second interpretation of the Examiner’s statement in the Response to Arguments Section of the Final Office Action.

As such, given the two different potential interpretations of the Examiner’s arguments, for the purposes of completeness the Appellant addresses each of these two interpretations hereinbelow.

*Appellant’s Response Based on First Interpretation of Primary Argument*

With respect to the first interpretation of the Examiner’s arguments (assuming *arguendo* that this interpretation is the one which the Examiner intended), Appellant

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respectfully submits that the Examiner, in judging the patentability of Appellant's claim 18 against Enomoto, has interpreted the limitations of Appellant's claim 18 in an unreasonably broad manner that is inconsistent with Appellant's specification, and, thus, that the Examiner's arguments with respect to Enomoto cannot support a rejection of Appellant's claim 18.

Appellant notes that the standard for claim interpretation during the examination of a patent application is that "claims ... are to be given their broadest reasonable interpretation consistent with the specification, *and* ... claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1365; 70 U.S.P.Q. 2D (BNA) 1827 (Fed. Cir. 2004), citing *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990) and *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir.1999).

Appellant respectfully submits that the Examiner has interpreted Appellant's claim 18 in an unreasonably broad manner that is inconsistent with Appellant's specification. The Examiner unreasonably generalizes the term "end-node" to include network nodes and then, on the basis of this unreasonable generalization, concludes that the congestion notification node of Enomoto discloses the end-node of Appellant's claim 18. Appellant respectfully submits that such an interpretation is improper and, thus, cannot support a rejection of Appellant's claim 18 in view of Enomoto.

Appellant notes that Appellant's application, including Appellant's specification, drawings, and claims, distinguishes between network nodes (identified in Appellant's application using reference number 102) and end-nodes (identified in Appellant's application using reference number 106).

Appellant's specification clearly distinguishes between network nodes and end-nodes.

For example, Appellant's specification states that:

"[t]he nodes 102<sub>N</sub> represent specific network devices such as bridges, switches, routers, and hubs/repeaters (not shown). Data generated by end users of the network devices 106 travels across the network 100 to other end users via the physical medium and the nodes, which perform the processing necessary to ensure the data arrives in a usable condition to the proper recipient.

[Appellant's Specification, Pg. 4, Lines 4-9]

Similarly, for example, Appellant's specification states that:

"[s]pecifically, the plurality of nodes 102<sub>N</sub> are linearly connected with the distinction of a break 108 (see FIG. 1) in network 100 being created to establish the new topology. In such a new topology, interconnecting links 104<sub>N</sub> continue to connect the plurality of nodes 102<sub>N</sub> with the exception of the link 104<sub>5-1</sub> that would otherwise join a fifth node 102<sub>5</sub> and the first node 102<sub>1</sub>. Network devices 106 are further represented as stations. In this particular example, and for sake of clarity, two such network devices or stations 106 are represented by call letters at each of the plurality of nodes 102<sub>N</sub>. Specifically, first node 102<sub>1</sub> is connected to stations A and B. Second node 102<sub>2</sub> is connected to stations C and D. Third node 102<sub>3</sub> is connected to stations E and F. Fourth node 102<sub>4</sub> is connected to stations G and H. Fifth node 102<sub>5</sub> is connected to stations I and J.

In a representative example, consider that data traffic is moving from one station to another station and sharing the nodes and interconnecting links with other data traffic moving to other stations along the same nodes and links."

[Appellant's Specification, Pg. 5, Lines 4 – 20]

Similarly, for example, Appellant's specification states that:

"[i]n a first example, if the congestion message contains only a destination address (e.g., the address of a end-node/end-station G), then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node G. In a second example, if the congestion message contains an source/destination address pair (e.g., the address of nodes AB), then the upstream node or controlling entity may drop all or a certain percentage of packets sourced from node A that are destined for node B. If the source address is not known, then the upstream node or controlling entity may drop all or a certain percentage of packets destined for node B."

[Appellant's Specification, Pg. 8, Line 33 – Pg. 9, Line 8]

Appellant's drawings also distinguish between network nodes and end-nodes. Figure 1 depicts an exemplary network including network nodes 102 for facilitating communication between end-nodes 106. Similarly, Figure 2 depicts an exemplary network including network nodes 102 for facilitating communication between end-nodes/end-stations 106 associated with the network nodes 102.

Furthermore, Appellant's claim 18 similarly distinguishes between network nodes and end-nodes, including limitations of "means for detecting a congestion condition at a network node in the network," "means for sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes

upstream of the congestion condition,” and “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.”

Thus, since Appellant’s specification, drawings, and claims clearly distinguish between network nodes and end-nodes, Appellant respectfully submits that the Examiner has interpreted Appellant’s claim 18 in an unreasonably broad manner that is inconsistent with Appellant’s specification and which fails to acknowledge the distinction between network nodes and end-nodes.

As discussed hereinabove, in rejecting Appellant’s claim 18, the Examiner fails to acknowledge the distinction between network nodes and end-nodes that is present in Appellant’s claim 18. More specifically, the Examiner cites the “generation source” node of Enomoto, asserting that the “generation source” node of Enomoto is the end-node as claimed in Appellant’s claim 18. Appellant respectfully disagrees. First, Appellant submits that the “generation source” node of Enomoto referred to by the Examiner is the source of the congestion notification (also referred to as a “notification generation node”). This is evident from the portions of Enomoto described hereinabove, as well as from the additional portion of Enomoto relied upon by the Examiner (namely, Para. 0406), each of which states that the “generation source” of Enomoto is the source of a congestion notification message (“ID of the generation source node”). For example, Enomoto refers to “...a generation source of the congestion notification...” on multiple occasions. (See Enomoto, Para. 0360, 0362). Second, as noted hereinabove, Enomoto discloses that the source of the congestion notification is a congestion control node (See Enomoto, Abstract, Para. [0047]). Third, as noted hereinabove, Enomoto clearly indicates that the congestion control nodes of Enomoto are network nodes, not end-nodes. Thus, Appellant submits that the “generation source” of Enomoto referred to by the Examiner is a network node, not an end-node as recited in Appellant’s specification and Appellant’s claim 18.

In view of the Examiner’s unreasonably broad interpretation of the term “end-node” in Appellant’s claim 18, and further in view of the teachings of Enomoto regarding the “generation source” node, Appellant respectfully submits that the “generation source”

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node of Enomoto is not an “end-node” as claimed in Appellant’s claim 18 and, thus, that Enomoto fails to teach or suggest Appellant’s claim 18.

Thus, since the Examiner, in judging the patentability of Appellant’s claim 18 against Enomoto, has interpreted the limitations of Appellant’s claim 18 in an unreasonably broad manner that is inconsistent with Appellant’s specification, the Examiner’s arguments with respect to Enomoto cannot support a rejection of Appellant’s claim 18. Appellant submits that, using a proper interpretation of “end-node” of Appellant’s claim 18, Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 18.

*Appellant’s Response Based on Second Interpretation of Primary Argument*

With respect to the second interpretation of the Examiner’s arguments (assuming *arguendo* that this interpretation is the one which the Examiner intended), Appellant respectfully submits that the Examiner’s argument fails to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 18.

As noted hereinabove, in the Advisory Action the Examiner cites a portion of Enomoto and then concludes that “...through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the routing table includes the source and destination addresses of the clients are recorded.” (Advisory Action, Pg. 3). Appellant respectfully disagrees.

In response, Appellant submits the rejection of Appellant’s claim 18 on this basis cannot be maintained, because the Examiner’s reasoning is based on an improper parsing of Enomoto.

Contrary to the Examiner’s assertion, the portion of Enomoto cited by the Examiner does not reference an ID of a “generation source node.” Rather, the portion of Enomoto cited by the Examiner refers to an “ID of the generation source node of notification.” (See Enomoto, Para. [0406]). In other words, the Examiner, in an attempt

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to support his argument, impermissibly cites only a portion of the relevant term, failing to acknowledge the last portion of the term. The entire term in Enomoto is: “ID of the generation source node of notification.” Appellant submits that, taking the term as a whole, this portion of Enomoto is not referring to an identifier of the node that is the source of congestion (i.e., one of the clients); rather, this term, taken as a whole, clearly refers to the source of the congestion notification, which, as Enomoto clearly indicates, is a congestion control node.

This is confirmed by various other portions of Enomoto discussed hereinabove, such as where Enomoto states that “[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node” and that “[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender.” (Enomoto, Para. [0210] and [0398], Emphasis added).

Thus, contrary to the Examiner’s assertion, the entire term from the cited portion of Enomoto (i.e., “ID of the generation source node of notification”) does exclude the clients, because Enomoto clearly indicates that the source of a congestion notification is a congestion control node and that the congestion notification includes the ID of the congestion control node. Thus, Appellant submits that, since the Examiner’s reasoning is based on an improper parsing of Enomoto, the rejection of Appellant’s claim 18 on this basis cannot be maintained.

Thus, at least for these reasons, Appellant respectfully submits that the Examiner has failed to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 18.

#### **4. Response to Examiner’s Additional Arguments in Advisory Action**

In the Advisory Action, the Examiner provides additional arguments in support of the assertion that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 18. Appellant respectfully disagrees.

First, the Examiner cites a portion of Enomoto and then concludes that “...the A2 congestion control node receives packet flow from a client C2 (*end-node* or *source*) and the A2 calculates whether the flow from C2 is causing a congestion. Packets in a flow must have a source and destination address (emphasis added) for routing purposes in this case, the source address is the C2 end-node address.” (Advisory Action, Pg. 2).

In response, Appellant notes that the Examiner’s conclusion fails to address the relevant limitation of Appellant’s claim 18. The Examiner’s argument fails to establish, or even assert for that matter, that a congestion notification generated by the congestion control node A2 comprises address information of client C2. Rather, the Examiner’s argument merely asserts that packets of a packet flow originating from C2 include a source address of C2. The fact that packets of a packet flow from C2 include a source address of C2 (assuming *arguendo* that the cited portion of Enomoto does indeed teach this) in no way teaches or suggests inclusion of a source address of C2 in a congestion notification generated by congestion control node A2. Additionally, Appellant notes that the portion of Enomoto cited by the Examiner in support of this argument (namely, Para. [0295]) is devoid of any teaching or suggestion that the congestion notification generated by congestion control node A2 includes a source address of client C2. The cited portion of Enomoto is silent regarding the content of the congestion notification; rather, the cited portion merely includes a general statement indicating that congestion control node A2 transmits a congestion notification to congestion control node A3. Thus, the cited portion of Enomoto, and the Examiner’s associated arguments, fail to establish that Enomoto discloses the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 18.

Second, the Examiner cites a portion of Enomoto and then concludes that “...a client (*end-node* or *source*) in question of causing a congestion is being accounted for and information is being recorded in a routing table wherein routing table *must* contain at least a source and destination address (emphasis added), including the client node in question.” (Advisory Action, Pg. 3).

In response, Appellant notes that, again, the Examiner’s conclusion fails to address the relevant limitation of Appellant’s claim 18. The Examiner’s argument fails to



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establish, or even assert for that matter, that a congestion notification generated by the congestion control node A2 comprises address information of client C2. Rather, the Examiner's argument merely asserts that a client in question of causing congestion is being accounted for in a routing table. The fact that a client is accounted for in a routing table (assuming *arguendo* that the cited portion of Enomoto does indeed teach this) in no way teaches or suggests inclusion of a source address of a client in a congestion notification generated by congestion control node. Similarly, the fact that a routing table includes address information for a client in no way teaches or suggests inclusion of a source address of client in a congestion notification generated by congestion control node. Additionally, Appellant notes that the portion of Enomoto cited by the Examiner in support of this argument (namely, Para. [0123] and [0155]) is devoid of any teaching or suggestion that the congestion notification generated by a congestion control node includes a source address of a client. The cited portion of Enomoto is silent regarding the content of the congestion notification; rather, the cited portion merely includes a general statement indicating that congestion control node A2 transmits a congestion notification to congestion control node A3. Thus, the cited portion of Enomoto, and the Examiner's associated arguments, clearly fail to establish that Enomoto discloses the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition" that is recited in Appellant's claim 18.

Third, as noted hereinabove in Appellant's response to the Examiner's primary argument, the Examiner cites a portion of Enomoto and then concludes that "...through the routing table, a congestion notification reception transfer part identifies an ID of a congestion source node, which does not exclude a congestion node in question (e.g., client C2 or any of C1, C3 or C4) since the routing table includes the source and destination addresses of the clients are recorded." (Advisory Action, Pg. 3). Appellant has shown hereinabove that the Examiner has failed to establish that Enomoto discloses the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition" that is recited in Appellant's claim 18.

Thus, these additional arguments provided by the Examiner in the Advisory Action fail to establish that Enomoto discloses the limitation of "wherein said congestion



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message comprises address information of at least one end-node associated with the congestion condition” that is recited in Appellant’s claim 18.

### **5. Conclusion**

Thus, Appellant submits that Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition,” as claimed in Appellant’s claim 18.

As such, independent claim 18 is patentable under 35 U.S.C. 102(b) over Enomoto. Therefore, the rejection should be withdrawn.

## **II. Rejection of Claims 4, 5, 7, 8, and 10-16 Under 35 U.S.C. 103(a)**

### **A. Claims 4 and 5**

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Paul. The rejections are traversed.

As described hereinabove, Enomoto fails to teach or suggest all of the elements of Appellant’s claim 1. Claims 4 and 5 depend from claim 1, and recites additional limitations therefor. Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

### **B. Claims 7, 8, 10, and 11**

Claims 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami. The rejections are traversed.

As described hereinabove, Enomoto fails to teach or suggest all of the elements of Appellant's claim 1. Claims 7, 8, 10, and 11 each depend from claim 1, and recite additional limitations therefor. Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

### **C. Claim 12**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami, and in further view of Lee. The rejections are traversed.

As described hereinabove, Enomoto fails to teach or suggest all of the elements of Appellant's claim 1. Claim 12 depends from claim 1, and recites additional limitations therefor. Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

### **D. Claims 13 and 14**

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kawakami, and in further view of Bare. The rejection is traversed.

As described hereinabove, Enomoto fails to teach or suggest all of the elements of Appellant's claim 1. Claims 13 and 14 depend from claim 1, and recite additional limitations therefor. Appellant notes that this ground of rejection applies only to a dependent claim, and is predicated on the validity of the rejection under 35 U.S.C. 102(b)

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given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional reference supplies that which is missing from Enomoto to render independent claims obvious, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

**E. Claims 15 and 16**

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Agrawal. The rejections are traversed.

As described hereinabove, Enomoto fails to teach or suggest all of the elements of Appellant's claim 1. Claims 15 and 16 depend from claim 1, and recite additional limitations therefor. Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 102(b) given Enomoto. Since the rejection under 35 U.S.C. 102(b) given Enomoto has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto to render the independent claims anticipated, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

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**CONCLUSION**

Thus, Appellant submits that all of the claims presently in the application are allowable.

For the reasons advanced above, Appellant respectfully urges that the rejection of claims 1-8 and 10-18 is improper. Reversal of the rejection of the Final Office Action is respectfully requested.

Respectfully submitted,

Dated: \_\_\_\_\_

7/28/09

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**CLAIMS APPENDIX**

1. (previously presented) A method for data flow control in a network, comprising:  
detecting a congestion condition at a network node in the network; and  
sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;  
wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.
2. (original) The method of claim 1, wherein:  
the congestion condition is determined when a queue maximum occupancy is exceeded.
3. (previously presented) The method of claim 1, wherein:  
the congestion condition is determined when data received by a network node exceeds an output link capability of the node.
4. (original) The method of claim 1, wherein:  
the congestion condition is determined when a queue data drop rate exceeds a threshold level.
5. (original) The method of claim 4, wherein:  
the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.
6. (original) The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.

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7. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.
8. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.
9. (cancelled)
10. (previously presented) The method of claim 1, wherein the address information is the MAC address of a destination end-node.
11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.
12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.
13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.
14. (previously presented) The method of claim 13, wherein:  
in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

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15. (previously presented) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

16. (previously presented) The method of claim 15, further comprising:  
receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (previously presented) A computer readable medium containing a program which, when executed, performs an operation of controlling data flow in a network comprising:

detecting a congestion condition at a network node in the network; and  
sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;  
wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

18. (previously presented) Apparatus for controlling flow of data in a network comprising:

means for detecting a congestion condition at a network node in the network; and  
means for sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

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**EVIDENCE APPENDIX**

None



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Page 57 of 57

**RELATED PROCEEDINGS APPENDIX**

None

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11088073			
<b>Filing Date:</b>	23-Mar-2005			
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network			
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra			
<b>Filer:</b>	Eamon J. Wall/Carol Wilson			
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709			
Filed as Large Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Filing a brief in support of an appeal	1402	1	540	540
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				540

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	5784399
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	28-JUL-2009
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	16:02:21
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Appeal Brief Filed	ALU126709eAppealBrief7_28_09.pdf	2546762 c59c300c8a0b1280e2b32608b1a88fb77c165248	no	57

**Warnings:****Information:**

2	Fee Worksheet (PTO-875)	fee-info.pdf	30070 ccd098bd02f8d766eaf90e85fd5ef8eb86d1378d	no	2
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**Warnings:****Information:**

<b>Total Files Size (in bytes):</b>			2576832
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**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	11/10/2009	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2462	
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			11/10/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

11/088,073

**Applicant(s)**

MALHOTRA, RICHA

**Examiner**

Xavier Szewai Wong

**Art Unit**

2462

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28<sup>th</sup> July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

#### ***12.187 Reopening of Prosecution After Appeal Brief or Reply Brief***

In view of the Appeal Brief filed on 28<sup>th</sup> July 2009, PROSECUTION IS HEREBY REOPENED. New ground(s) of rejection is/are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:/Seema S. Rao/

Supervisory Patent Examiner, Art Unit 2462

#### ***Response to Arguments***

Applicant's arguments filed 18<sup>th</sup> November 2008 have been considered but they are moot in view of new grounds of rejection.



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Applicants raised the issue that Enomoto does not teach “congestion message comprises address information of at least one end-node associated with the congestion condition” (Remarks: pg. 7). See **Meifu** below.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims **17** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The specification fails to clearly define the term “computer-readable medium.” When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diamond v. Diehr*, 450 U.S. 175, 185-86, 209 USPQ 1, 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”). Such a result would exalt form over substance. In *re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) (“[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under § 101, the claimed invention, as a whole, must be evaluated for what it is.”) (quoted with approval in *Abele*, 684 F.2d at 907, 214 USPQ at 687). See also In

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re Johnson, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) (“form of the claim is often an exercise in drafting”).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Meifu et al (US 2002/0103911 A1, Meifu).

Claims 1, 17 and 18: Enomoto discloses an apparatus comprising computer-readable medium containing a program which when executed performs an operation of controlling data flow in a network (figs. 1-4) comprising:

means for detecting a congestion condition at a network node in the network ([0126]; fig. 1: congestion control part A13 of node A1); and

means for sending a congestion message from the network node (A1) at which the congestion condition is detected to one or more network nodes upstream of the congestion condition ([0130 & 0386]: wherein congestion notification sent back “upstream” to node A2 from A1; fig. 2: R11 → A13 → L105 → A14 → L104 → A2; transfer direction determination part A11);

said congestion message adapted to enable said one or more upstream network nodes to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154, 156 & 158]).

Enomoto does not very expressively mention “wherein address information is learned of at least one end-node associated with the congestion condition.” Meifu teaches address

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information is learned of at least one end-node associated with the congestion condition ([0424]: normal end identifier is information representing whether the communication has normally ended or not – whether the communication has abnormally ended due to occurrence of a failure or a congestion). It would have been obvious to one of ordinary skill in the art at the time the invention was created to learn address of an end-node generating congestion notification as taught by Meifu to the congestion handling method of Enomoto for effective retransmission error recovery to recover lost packets based on the congestion state and quickly identify the root cause of a possible failure along a communication route.

Claim 2, applied to claim 1: Enomoto, in combination with Meifu, disclose the congestion condition is determined when a queue maximum occupancy is exceeded ([0227]).

Claim 3, applied to claim 1: Enomoto, in combination with Meifu, disclose the congestion condition is determined when data received by a network node exceeds an output link capability of the node ([0227]).

Claim 6, applied to claim 1: Enomoto, in combination with Meifu, disclose the congestion message comprises an indication that a congestion condition exists ([0210]).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Meifu et al (US 2002/0103911 A1, Meifu) and in further view of Paul et al (US 6,148,005, Paul).

Claims 4 and 5, applied to claims 1 and 4: Enomoto discloses the claimed invention yet not *very specifically* mentioned congestion condition is dependent of a queue data drop rate exceeding a threshold level wherein the threshold is determined by at least one of an amount of

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data dropped, an amount of data dropped over time and a number of data drops over time. Paul mentions the *concept* of when a packet loss (drop) rate goes above a certain level (threshold), a network node (e.g. receiver) moves into a congested state (col. 8 lines 39-67; col. 10 lines 55-62). It would have been obvious to one of ordinary skill in the art at the time the invention was created to apply such congestion condition determination policies taught by Paul to the congestion buffer used amount measuring part of Enomoto (fig. 3 part A138) for effective retransmission error recovery to recover lost packets based on the congestion state.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Meifu et al (US 2002/0103911 A1, Meifu) and in further view of Kawakami et al (US 2002/0136163 A1, Kawakami).

Claims 7, 8, 10 and 11, applied to claims 6, 1 and 8: Enomoto discloses the claimed invention yet the specifics of: the congestion message comprising a MAC address pair, which has source and destination addresses, of a traffic flow or an end-node contributing to the congestion are not *very expressively* mentioned. Kawakami mentions the congestion notification packet wherein a MAC address of a terminal (end-node) to which flow (data flow) control is to be applied is specified as the destination address of the packet; and in a data packet, the transmission source address specified in the packet is the MAC address of a source terminal, however in the case of a congestion notification packet a unique address is specified as the source address ([0108]). It would have been obvious to one of ordinary skill in the art to apply the concept of pair MAC (source, destination) address congestion message of Kawakami to the congestion notification of Enomoto to avoid packet loss from a congested flow.

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Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Meifu et al (US 2002/0103911 A1, Meifu) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claim 11, and in further view of Lee et al (US 6,636,510 B1, Lee).

Claim 12, applied to claim 11: Enomoto, modified by Meifu and Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned dropping packets associated with the *destination address*. Lee discloses destination address modification for congestion may be accompanied by partial packet discard, through destination address modification of the remaining cells forming part of a multiple cell packet to remove the destination address for the congested port; and, sending with destination address modification and optional partial packet discard if the queue size is above the threshold (abstract; col. 3 lines 20-30). It would have been obvious to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the destination address based packet dropping policy of Lee to avoid overflow buffer in transmission.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Meifu et al (US 2002/0103911 A1, Meifu) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claims 11 and 13, and in further view of Bare (US 7,283,476 B2).

Claims 13 and 14, applied to claims 11 and 13: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned the dropping of

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packets associated with *source and destination addresses* wherein when the *source end-node address is unknown*, the data flow is controlled by dropping those packets associated only with the destination address. Bare mentions both source and destination addresses are used to determine packet dropping conditions; and, that a packet with unknown source address is dropped directed to a specific destination MAC address (col. 13 lines 42-50 & 66-67). It would have been obvious to one of ordinary skill in the art at the time the invention was created to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the source and destination addresses as taught by Bare to maintain load balancing by checking whether a packet from a certain source address were received within a predetermined time window.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Meifu et al (US 2002/0103911 A1, Meifu) and in further view of Agrawal et al (US 2003/0081546 A1, Agrawal).

Claims 15 and 16, applied to claims 1 and 15: Enomoto discloses the claimed invention yet not specifically about Service Level Agreement flow control and dropping policies. Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA), which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself ([0003]); wherein clearly flows are controlled by SLA and flows being *delayed* is interpreted as a condition for inability to drop since there are the options of “flows are delayed *or* dropped” specifically. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the flow control function

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of Enomoto to realize the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 8:30 am - 6:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571.272.1000.

/Xavier Szewai Wong/

x.s.w  
22<sup>nd</sup> October 2009

/Seema S. Rao/

Supervisory Patent Examiner, Art Unit  
2462

<b>Notice of References Cited</b>	Application/Control No. 11/088,073	Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong	Art Unit 2462	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0103911 A1	08-2002	Meifu et al.	709/227
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**


*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



<b>Search Notes</b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2416

SEARCHED			
Class	Subclass	Date	Examiner
370	229- 231,235,236,236.1,236.2,253,312,349,389,471,395.71	03.01.09	XSW
updated	above	10.25.09	XSW

SEARCH NOTES		
Search Notes	Date	Examiner
EAST image, class and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	03.01.09	XSW
updated above	10.25.09	XSW

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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**EAST Search History****EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	8299	370/229,230,230.1,231,235.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/10/26 04:20
L2	30408535	@rld < "20050323" @ad < "20050323"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/10/26 04:20
L3	6656	L1 and L2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/10/26 04:21
L4	1	L2 and (end adj (terminal node) end \$1node end\$1terminal) near3 (ID identification identifier address) same congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/10/26 04:22
L5	80	(end terminal) near (ID identification identifier address) same congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/10/26 04:25
L6	28	(end terminal end adj node end\$1node) near (ID identification identifier address) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/10/26 04:27
L7	1	11/088073 and computer adj readable	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/10/26 04:40

**EAST Search History (Interference)**

&lt; This search history is empty &gt;

**10/26/2009 4:47:27 AM****C:\Documents and Settings\xwong\My Documents\EAST\Workspaces\Malhotra\_10.25.09.wsp**

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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Inventor(s):</b>	Richa Malhotra		
<b>Case:</b>	R Malhotra 7 (ALU/126709)		
<b>Serial No.:</b>	11/088,073	<b>Group Art Unit:</b>	2462
<b>Filed:</b>	March 23, 2005		
<b>Examiner:</b>	Wong, Xavier S	<b>Confirmation #:</b>	7089
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		

**MAIL STOP AMENDMENT  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**RESPONSE AMENDMENT**

In response to the non-final Office Action mailed November 10, 2009, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 50-4802/ALU/126709.

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**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (currently amended) A method for ~~data-flow control~~ controlling data flow in a network, comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected ~~[[to]]~~ toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

2. (original) The method of claim 1, wherein:

the congestion condition is determined when a queue maximum occupancy is exceeded.

3. (previously presented) The method of claim 1, wherein:

the congestion condition is determined when data received by a network node exceeds an output link capability of the node.

4. (original) The method of claim 1, wherein:

the congestion condition is determined when a queue data drop rate exceeds a threshold level.

5. (original) The method of claim 4, wherein:

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the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

6. (original) The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.
7. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.
8. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.
9. (cancelled)
10. (previously presented) The method of claim 1, wherein the address information is the MAC address of a destination end-node.
11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.
12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.
13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.
14. (previously presented) The method of claim 13, wherein:

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in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

15. (previously presented) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

16. (previously presented) The method of claim 15, further comprising:  
receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (currently amended) A computer readable storage medium containing having stored thereon a program which, when executed by a computer, ~~performs an operation of~~ causes the computer to perform a method for controlling data flow in a network, the method comprising:

detecting a congestion condition at a network node in the network; and  
sending a congestion message from the network node at which the congestion condition is detected ~~[[to]]~~ toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

18. (currently amended) Apparatus for controlling ~~flow of data~~ flow in a network comprising:

means for detecting a congestion condition at a network node in the network; and  
means for sending a congestion message from the network node at which the congestion condition is detected ~~[[to]]~~ toward one or more network nodes upstream of the congestion condition;

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wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

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**Remarks**

Claims 1-8 and 10-18 are pending in the application.

Claim 17 is rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al. (US 2003/0076781 A1, "Enomoto") in view of Meifu et al. (US 2002/0103911 A1, "Meifu") in view of Meifu et al. (US 2002/0103911 A1, "Meifu").

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu and further in view of Paul et al. (US 6,148,005, "Paul")>

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu and further in view of Kawakami et al. (US 2002/0136163 A1, "Kawakami").

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu and further in view of Kawakami, applied to claim 11, and in further view of Lee et al. (U.S. Patent No. 6,636,510 B1, "Lee").

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu and further in view of Kawakami as applied to claims 11 and 13, and in further view of Bare (U.S. Patent No. 7,283,476 B2, "Bare").

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu and further in view of Agrawal et al (U.S. 2003/0081546 A1, "Agrawal").

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code



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or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

#### **Rejection Under 35 U.S.C. 101**

Claim 17 is rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. The rejection is traversed.

Applicant has herein amended claim 17 from "computer readable medium" to "computer readable storage medium." Thus, claim 17 satisfies the requirements of 35 U.S.C. 101.

Therefore, the rejection should be withdrawn.

#### **Rejection Under 35 U.S.C. 103(a)**

The Examiner bears the initial burden of establishing a prima facie case of obviousness. See MPEP § 2141. Establishing a prima facie case of obviousness begins

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with first resolving the factual inquiries of *Graham v. John Deere Co.* 383 U.S. 1 (1966).

The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of nonobviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. The key to supporting a rejection under 35 U.S.C. §103 is the clear articulation of the reasons why the claimed invention would have been obvious. The analysis supporting such a rejection must be explicit. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006), cited with approval in *KSR Int'l Co. v. Teleflex, Inc.*, 126 S. Ct. 2965 (2006); see also MPEP §2141.

According to MPEP §2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art" (*quoting, In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). In addition, to establish a prima facie case of obviousness the prior art reference (or references when combined) must teach or suggest all elements of the subject claim. *In re Wada*, 2007-3733 (BPAI Jan. 14, 2008) (*citing, CMFT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed.Cir. 2003)).

### **Claims 1, 2, 3, 6, 17 and 18**

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu. The rejection is traversed.

Enomoto and Meifu, alone or in any permissible combination, fail to teach all elements of Applicant's independent claim 1.

Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Applicant's claim 1.

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Rather, Enomoto merely discloses a system in which a congestion control node, in response to detecting a congestion condition, sends a congestion notification to other congestion control nodes, where the congestion notification includes an allowable bandwidth amount and the address of the congestion control node that generates the congestion notification.

Specifically, with respect to the congestion notification, Enomoto states that “[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node.” (Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that “[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender.” (Enomoto, Para. 398, Emphasis added).

In other words, Enomoto merely discloses a system in which a congestion notification message includes an address of the node that generates the congestion notification message. Enomoto is devoid of any teaching or suggestion that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Applicant’s claim 1.

Thus, Applicant submits that Enomoto fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

Furthermore, Meifu fails to bridge the substantial gap between Enomoto and Applicant’s independent claim 1.

Meifu discloses a system that enables a user of a user terminal to readily retrieve and refer information in an analog-like manner closer to human sensations, and to provide the information to many and unspecified users with a less number of information bubbles, by virtually registering information or service information relating to an object existing in the user's view, for example, as an information bubble, in providing an information service using a terminal such as a portable telephone or the like. (Meifu, Paragraph [0011]).

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Meifu, however, fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

In the Office Action, the Examiner cites a specific portion of Meifu (namely, Paragraph [0424]), asserting that the cited portion of Meifu discloses this limitation of Applicant’s claim 1. Applicant disagrees.

The cited portion of Meifu merely states that “[t]he normal end identifier 495 is information representing whether the communication has normally ended or not (whether the communication has abnormally ended due to occurrence of a failure or a congestion).” (Meifu, Para. [0424], Emphasis added).

The cited portion of Meifu is devoid of any teaching or suggestion of any congestion message or any address information, much less that a congestion message includes address information or that a congestion message includes address information of at least one end-node associated with a congestion condition. The cited portion of Meifu clearly does not teach or suggest that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Applicant’s claim 1.

Thus, Meifu fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

Thus, since Enomoto and Meifu each fail to teach or suggest the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” a combination of Enomoto and Meifu (assuming *arguendo* that such a combination is possible) fails to teach or suggest the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

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As such, independent claim 1 is allowable under 35 U.S.C. 103(a) over Enomoto in view of Meifu. Similarly, independent claims 17 and 18 recite relevant limitations similar to those recited in independent claim 1 and, at least for the same reasons discussed above, independent claims 17 and 18 also are allowable under 35 U.S.C. 103(a) over Enomoto in view of Meifu. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is allowable under 35 U.S.C. 103(a) over Enomoto in view of Meifu.

Therefore, the rejection should be withdrawn.

#### **Claims 4 and 5**

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu further in view of Paul. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Meifu. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Meifu to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

#### **Claims 7, 8, 10, and 11**

Claims 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu further in view of Kawakami. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Meifu. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Meifu to render the independent claims unpatentable, this ground of rejection cannot be maintained.

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Therefore, the rejection should be withdrawn.

**Claim 12**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu and Kawakami, applied to claim 11, and in further view of Lee. The rejection is traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Meifu. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Meifu to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

**Claims 13 and 14**

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Meifu and Kawakami, applied to claims 11 and 13, and in further view of Bare. The rejection is traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Meifu. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Meifu to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

**Claims 15 and 16**

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto view Meifu and further in view of Agrawal. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in

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view of Meifu. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Meifu to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

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**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Michael Bentley or Eamon Wall at (732) 842-8110 x120 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: 11/8/10

E J Wall  
Eamon J. Wall  
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Facsimile: 732-842-8388



**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	6784378
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	11-JAN-2010
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	14:24:36
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		ALU126709eAmend_001.pdf	587466 e98b9abb9a3570b546465e433e2ec2b6a1d368b4	yes	14

	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	14

**Warnings:****Information:****Total Files Size (in bytes):**

587466

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed	
<b>APPLICATION AS FILED – PART I</b>										
(Column 1)			(Column 2)		SMALL ENTITY <input type="checkbox"/> OR		OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL				
<b>APPLICATION AS AMENDED – PART II</b>										
(Column 1)			(Column 2)		(Column 3)		SMALL ENTITY OR		OTHER THAN SMALL ENTITY	
<b>AMENDMENT</b>	<b>01/11/2010</b>	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0	X \$	=	OR	X \$52=	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$	=	OR	X \$220=	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE			OR	TOTAL ADD'L FEE	0
<b>AMENDMENT</b>	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE			OR	TOTAL ADD'L FEE	
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>										

Legal Instrument Examiner:  
/PARTHENIA MERRILL/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	05/10/2010	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2462	
			MAIL DATE	DELIVERY MODE
			05/10/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

11/088,073

**Applicant(s)**

MALHOTRA, RICHA

**Examiner**

Xavier Szewai Wong

**Art Unit**

2462

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11<sup>th</sup> January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 11<sup>th</sup> January 2010 have been considered but they are *moot*.

Applicants raised the issue that Enomoto does not teach "congestion message comprises address information of at least one end-node associated with the congestion condition" (Remarks: page. 10). See **Doshi**.

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims **17** is *maintained* rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The specification fails to clearly define the term "computer-readable storage medium."

On page 2 lines 21-31 of the applicant's specification, it quotes:

"In one embodiment of the invention, the learned address information is the MAC address of a destination node to which the data is flowing towards. In another embodiment, the learned address information is the MAC address of a source node generating the data flow. In another embodiment, the learned address information is a MAC address pair of the nodes between which the data is flowing. The method may be practiced in for example a computer readable medium containing a program which, when executed, performs an operation of controlling data flow in the prescribed manner. As a result, data flows causing congestion are differentiated from data flows that are not causing congestion allowing improved performance of Ethernet-based networks."

Though the so-called "Computer-Readable Storage Medium" has been claimed to be executed by "a computer," it is noted that the "method" to be performed is still done by the "storage medium" and the "computer" is not the main object to be claimed. Such ambiguity appears to cover both transitory and non-transitory embodiments. The United States Patent and Trademark Office (USPTO) is **required** to give claims their broadest reasonable interpretation consistent with the specification during proceedings before the USPTO. See *In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989) (during patent

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examination the pending claims must be interpreted as broadly as their terms reasonably allow). The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media **and** transitory propagating signals *per se* in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. See MPEP 2111.01. When the broadest reasonable interpretation of a claim covers a signal *per se*, the claim **must** be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. See *In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101*, Aug. 24, 2009; p. 2.

The Examiner suggests that the Applicant add the limitation “non-transitory computer-readable storage medium” to the claim(s) in order to properly render the claims in statutory form in view of their broadest reasonable interpretation in light of the originally filed specification. The Examiner also suggests that the specification be amended to include the term “non-transitory computer-readable storage medium” to avoid a potential objection to the specification for a lack of antecedent basis of the claimed terminology.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Doshi et al (US 6219339 B1, Doshi).

Claims 1, 17 and 18: Enomoto discloses an apparatus comprising computer-readable medium containing a program which when executed performs an operation of controlling data flow in a network (figs. 1-4) comprising:

means for detecting a congestion condition at a network node in the network ([0126]; fig. 1: congestion control part A13 of node A1); and

means for sending a congestion message from the network node (A1) at which

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the congestion condition is detected to one or more network nodes upstream of the congestion condition ([0130 & 0386]: wherein congestion notification sent back “upstream” to node A2 from A1; fig. 2: R11 → A13 → L105 → A14 → L104 → A2; transfer direction determination part A11);

said congestion message adapted to enable said one or more upstream network nodes to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154, 156 & 158]).

Enomoto does not very expressively mention “wherein address information is learned of at least one end-node associated with the congestion condition.” Doshi teaches address information is learned of at least one end-node associated with the congestion condition (col. 2 lines 38-49: each AAL2 voice packet comprising a sequence number, the values of which range from 0 to n-1, and a source identifier, k; when traffic congestion is detected, the transmitter portion of the SSCS System selectively discards one packet from a source k at the input of the transmission buffer; fig. 8: each voice source 1-K is connected to a source node). It would have been obvious to one of ordinary skill in the art at the time the invention was created to learn address of an end-node generating congestion notification as taught by Doshi to the congestion handling method of Enomoto for effective retransmission error recovery to recover lost packets based on the congestion state and quickly identify the root cause of a possible failure along a communication route and facilitate dropping packets from that source that caused the congestion.



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Claim 2, applied to claim 1: Enomoto, in combination with Doshi, disclose the congestion condition is determined when a queue maximum occupancy is exceeded ([0227]).

Claim 3, applied to claim 1: Enomoto, in combination with Doshi, disclose the congestion condition is determined when data received by a network node exceeds an output link capability of the node ([0227]).

Claim 6, applied to claim 1: Enomoto, in combination with Doshi, disclose the congestion message comprises an indication that a congestion condition exists ([0210]).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Doshi et al (US 6219339 B1, Doshi) and in further view of Paul et al (US 6,148,005, Paul).

Claims 4 and 5, applied to claims 1 and 4: Enomoto discloses the claimed invention yet not *very specifically* mentioned congestion condition is dependent of a queue data drop rate exceeding a threshold level wherein the threshold is determined by at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time. Paul mentions the *concept* of when a packet loss (drop) rate goes above a certain level (threshold), a network node (e.g. receiver) moves into a congested state (col. 8 lines 39-67; col. 10 lines 55-62). It would have been obvious to one of ordinary skill in the art at the time the invention was created to apply such congestion condition determination policies taught by Paul to the congestion buffer used

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amount measuring part of Enomoto (fig. 3 part A138) for effective retransmission error recovery to recover lost packets based on the congestion state.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Doshi et al (US 6219339 B1, Doshi) and in further view of Kawakami et al (US 2002/0136163 A1, Kawakami).

Claims 7, 8, 10 and 11, applied to claims 6, 1 and 8: Enomoto discloses the claimed invention yet the specifics of: the congestion message comprising a MAC address pair, which has source and destination addresses, of a traffic flow or an end-node contributing to the congestion are not *very expressively* mentioned. Kawakami mentions the congestion notification packet wherein a MAC address of a terminal (end-node) to which flow (data flow) control is to be applied is specified as the destination address of the packet; and in a data packet, the transmission source address specified in the packet is the MAC address of a source terminal, however in the case of a congestion notification packet a unique address is specified as the source address ([0108]). It would have been obvious to one of ordinary skill in the art to apply the concept of pair MAC (source, destination) address congestion message of Kawakami to the congestion notification of Enomoto to avoid packet loss from a congested flow.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Doshi et al (US 6219339 B1,

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Doshi) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claim 11, and in further view of Lee et al (US 6,636,510 B1, Lee).

Claim 12, applied to claim 11: Enomoto, modified by Doshi and Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned dropping packets associated with the *destination address*. Lee discloses destination address modification for congestion may be accompanied by partial packet discard, through destination address modification of the remaining cells forming part of a multiple cell packet to remove the destination address for the congested port; and, sending with destination\_address modification and optional partial packet discard if the queue size is above the threshold (abstract; col. 3 lines 20-30). It would have been obvious to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the destination address based packet dropping policy of Lee to avoid overflow buffer in transmission.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Doshi et al (US 6219339 B1, Doshi) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claims 11 and 13, and in further view of Bare (US 7,283,476 B2).

Claims 13 and 14, applied to claims 11 and 13: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned the dropping of packets associated with *source and destination addresses* wherein when the *source end-node address is unknown*, the data flow is controlled by dropping those packets associated only with the destination address. Bare mentions both source and

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destination addresses are used to determine packet dropping conditions; and, that a packet with unknown source address is dropped directed to a specific destination MAC address (col. 13 lines 42-50 & 66-67). It would have been obvious to one of ordinary skill in the art at the time the invention was created to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the source and destination addresses as taught by Bare to maintain load balancing by checking whether a packet from a certain source address were received within a predetermined time window.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Doshi et al (US 6219339 B1, Doshi) and in further view of Agrawal et al (US 2003/0081546 A1, Agrawal).

Claims 15 and 16, applied to claims 1 and 15: Enomoto discloses the claimed invention yet not specifically about Service Level Agreement flow control and dropping policies. Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA), which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself ([0003]); wherein clearly flows are controlled by SLA and flows being *delayed* is interpreted as a condition for inability to drop since there are the options of “flows are delayed *or* dropped” specifically. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the flow control function of Enomoto to realize

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the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Lee, US 2005/0052994 A1: ORIGINATOR\_ID values, a receiver node may determine the location in the network that is affected by congestion [0047]

2. Peng et al, US 6650618 B1: an identifier to identify the node as being part of a congested span; and adjuster to adjust the output bandwidth of the node as a function of the congestion in the span (col. 2 lines 30-38)

3. Kawakami et al, US 7180857 B2: each said congestion notification packet which is transmitted upon occurrence of said second degree of congestion is a group-specific congestion notification packet containing group identifier information identifying said congestion origin terminal group (col. 20 lines 29-45)

4. Watanabe, US 6751195 B1: congestion notification data contains the identification of the source-end CCD or the identification of the source-end transmission line (col. 10 lines 50-62)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Szewai Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 8:30 am - 6:00 pm (EST).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571.272.1000.

*/Xavier Szewai Wong/*  
Patent Examiner AU 2462  
22<sup>nd</sup> April 2010

*/Kevin C. Harper/*  
Primary Examiner, Art Unit 2462

<b>Notice of References Cited</b>	Application/Control No. 11/088,073		Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong		Art Unit 2462	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,219,339 B1	04-2001	Doshi et al.	370/235
	B	US-			
*	C	US-6,650,618 B1	11-2003	Peng et al.	370/229
*	D	US-6,751,195 B1	06-2004	Watanabe, Yoshihiro	370/236.1
*	E	US-2005/0052994 A1	03-2005	Lee, Man-Ho Lawrence	370/230
*	F	US-7,180,857 B2	02-2007	Kawakami et al.	370/231
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>Search Notes</b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2462

SEARCHED			
Class	Subclass	Date	Examiner
370	229- 231,235,236,236.1,236.2,253,312,349,389,471,395.71	03.01.09	XSW
updated	above	05.06.2010	XSW

SEARCH NOTES		
Search Notes	Date	Examiner
EAST image, class and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	03.01.09	XSW
updated above	05.06.2010	XSW

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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**EAST Search History****EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7015	370/229,230,230.1,231,235.ccls. and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:17
L3	1	L1 and (end\$1node (terminal end) adj (node station) root) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:19
L4	47	L1 and (end\$1node terminal node root) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:22
L5	2	L1 and (end\$1node terminal node root) with (ID identifier identification) with congest\$5 with caus\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:22
L6	36	L1 and (source origin\$5) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:44

**EAST Search History (I nterference)**

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**5/ 7/ 2010 5:05:50 AM****C:\ Documents and Settings\ xwong\ My Documents\ EAST\ Workspaces\ Malhotra\_05.05.10.wsp**

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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

**Inventor(s):** Richa Malhotra  
**Case:** R Malhotra 7 (ALU/126709)  
**Serial No.:** 11/088,073 **Group Art Unit:** 2462  
**Filed:** March 23, 2005  
**Examiner:** Wong, Xavier S **Confirmation #:** 7089  
**Title:** METHOD AND APPARATUS FOR FLOW CONTROL OF  
DATA IN A NETWORK

**MAIL STOP AMENDMENT  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**RESPONSE AMENDMENT**

In response to the non-final Office Action mailed May 10, 2010, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 50-4802/ALU/126709.

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**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (previously presented) A method for controlling data flow in a network, comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

2. (original) The method of claim 1, wherein:

the congestion condition is determined when a queue maximum occupancy is exceeded.

3. (previously presented) The method of claim 1, wherein:

the congestion condition is determined when data received by a network node exceeds an output link capability of the node.

4. (original) The method of claim 1, wherein:

the congestion condition is determined when a queue data drop rate exceeds a threshold level.

5. (original) The method of claim 4, wherein:

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the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

6. (original) The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.
7. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.
8. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.
9. (cancelled)
10. (previously presented) The method of claim 1, wherein the address information is the MAC address of a destination end-node.
11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.
12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.
13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.
14. (previously presented) The method of claim 13, wherein:

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in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

15. (previously presented) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

16. (previously presented) The method of claim 15, further comprising:  
receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (currently amended) A non-transitory computer readable storage medium having stored thereon a program which, when executed by a computer, causes the computer to perform a method for controlling data flow in a network, the method comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

18. (previously presented) Apparatus for controlling data flow in a network comprising:

means for detecting a congestion condition at a network node in the network; and

means for sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

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wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

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**Remarks**

Claims 1-8 and 10-18 are pending in the application.

Claim 17 is rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al. (US 2003/0076781 A1, "Enomoto") in view of Doshi et al. (US 6219339 B1, "Doshi").

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi and further in view of Paul et al. (US 6,148,005, "Paul").

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi and further in view of Kawakami et al. (US 2002/0136163 A1, "Kawakami").

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi and further in view of Kawakami, applied to claim 11, and in further view of Lee et al. (U.S. Patent No. 6,636,510 B1, "Lee").

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi and further in view of Kawakami as applied to claims 11 and 13, and in further view of Bare (U.S. Patent No. 7,283,476 B2, "Bare").

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi and further in view of Agrawal et al (U.S. 2003/0081546 A1, "Agrawal").

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any

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amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

#### **Rejection Under 35 U.S.C. 101**

Claim 17 is rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. The rejection is traversed.

Applicant has herein amended claim 17 from "computer readable storage medium" to "non-transitory computer readable storage medium." Thus, claim 17 satisfies the requirements of 35 U.S.C. 101.

Therefore, the rejection should be withdrawn.

#### **Rejection Under 35 U.S.C. 103(a)**

#### **Claims 1, 2, 3, 6, 17 and 18**

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi. The rejection is traversed.



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Enomoto and Doshi, alone or in any permissible combination, fail to teach all elements of Applicant's independent claim 1.

Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Applicant's claim 1.

Rather, Enomoto merely discloses a system in which a congestion control node, in response to detecting a congestion condition, sends a congestion notification to other congestion control nodes, where the congestion notification includes an allowable bandwidth amount and the address of the congestion control node that generates the congestion notification.

Specifically, with respect to the congestion notification, Enomoto states that "[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node." (Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that "[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender." (Enomoto, Para. 398, Emphasis added).

In other words, Enomoto merely discloses a system in which a congestion notification message includes an address of the node that generates the congestion notification message. Enomoto is devoid of any teaching or suggestion that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Applicant's claim 1.

Thus, Applicant submits that Enomoto fails to teach or suggest at least the limitation of "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Applicant's claim 1.

Furthermore, Doshi fails to bridge the substantial gap between Enomoto and Applicant's independent claim 1.

Doshi discloses selective discarding of packets where discarding of a packet is performed as a function of previously discarded packets.

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Doshi, however, fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

In the Office Action, the Examiner cites a specific portion of Doshi (namely, Col. 2, Lines 38 – 49), asserting that the cited portion of Doshi teaches that “...address information is learned of at least one end-node associated with the congestion condition....” (See Office Action, Pg. 4).

First, Applicant submits that the Examiner’s assertion regarding the teachings of Doshi fails to accurately address the limitation of Applicant’s claim 1. Namely, contrary to the Examiner’s assertion, Applicant’s claim 1 does not state that “address information is learned of at least one end-node associated with the congestion condition.” Applicants submit that, while address information is learned by the upstream node receiving the message (via inclusion of address information of at least one end-node associated with the congestion condition within the congestion message), Applicant’s claim 1 recites a limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition....” Thus, the Examiner fails to accurately address the limitation of Applicant’s claim 1.

Second, Applicant submits that the portion of Doshi cited by the Examiner fails to teach or suggest a congestion message including address information of at least one end-node associated with a congestion condition. Rather, the cited portion of Doshi merely discloses packets for transmission where each packet for transmission includes a source identifier. In Doshi, the packet for transmission is not a congestion message. Thus, the cited portion of Doshi clearly fails to teach or suggest a congestion message including address information of at least one end-node associated with a congestion condition.

Thus, Doshi fails to teach or suggest at least the limitation of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

As such, independent claim 1 is allowable under 35 U.S.C. 103(a) over Enomoto in view of Doshi. Similarly, independent claims 17 and 18 recite relevant limitations

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similar to those recited in independent claim 1 and, at least for the same reasons discussed above, independent claims 17 and 18 also are allowable under 35 U.S.C. 103(a) over Enomoto in view of Doshi. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is allowable under 35 U.S.C. 103(a) over Enomoto in view of Doshi.

Therefore, the rejection should be withdrawn.

#### **Claims 4 and 5**

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi further in view of Paul. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Doshi. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Doshi to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

#### **Claims 7, 8, 10, and 11**

Claims 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi further in view of Kawakami. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Doshi. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Doshi to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

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**Claim 12**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi and Kawakami, applied to claim 11, and in further view of Lee. The rejection is traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Doshi. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Doshi to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

**Claims 13 and 14**

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Doshi and Kawakami, applied to claims 11 and 13, and in further view of Bare. The rejection is traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Doshi. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Doshi to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

**Claims 15 and 16**

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto view Doshi and further in view of Agrawal. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Doshi. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply

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that which is missing from Enomoto and Doshi to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

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**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Michael Bentley or Eamon Wall at (732) 842-8110 x120 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: 7/12/10



Eamon J. Wall  
Registration No. 39,414  
Attorney for Applicant(s)

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Telephone: 732-842-8110  
Facsimile: 732-842-8388

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	7996970
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	12-JUL-2010
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	16:42:38
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		ALU126709eAmend_001.pdf	512671 a7d4ba25816f15eda288fb70d89dc5567da4db31	yes	13

## Multipart Description/PDF files in .zip description

	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	13

**Warnings:****Information:****Total Files Size (in bytes):**

512671

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed	
<b>APPLICATION AS FILED – PART I</b>										
(Column 1)			(Column 2)			SMALL ENTITY <input type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.					TOTAL		TOTAL			
<b>APPLICATION AS AMENDED – PART II</b>										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	07/12/2010	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0	X \$	=		X \$52=	0	
Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$	=		X \$220=	0	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L FEE	0	
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=		X \$	=	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=		X \$	=	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L FEE		
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>										

Legal Instrument Examiner:  
/ROLITA WIMBUSH/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	10/06/2010	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 25 James Way Eatontown, NJ 07724			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2462	
			MAIL DATE	DELIVERY MODE
			10/06/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

11/088,073

**Applicant(s)**

MALHOTRA, RICHA

**Examiner**

Xavier Szewai Wong

**Art Unit**

2462

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12<sup>th</sup> July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 12<sup>th</sup> July 2010 have been considered but they are *moot*.

Applicants raised the issue that neither Enomoto nor Doshi does not teach “congestion message comprises address information of at least one end-node associated with the congestion condition” (Remarks: pages 8-10). The examiner disagrees with Doshi not teaching said limitation (e.g. Doshi does mention a “source identifier k” where traffic congestion is detected and “discarding packets” from that “source k (e.g. end-node)” – col. 2 lines 28-34) but has chosen to bring attention to a more detailed reference, **Kwan**, to address the concerned issue. See **Kwan** rejection for claims 1, 17 and 18.

MPEP chapter 2100, section 2111 R-5:

During patent examination, the pending claims must be “given their **broadest reasonable interpretation** consistent with the specification.” >The Federal Circuit’s en banc decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the “broadest reasonable interpretation” standard:

The Patent and Trademark Office (“PTO”) determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must “conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.” 37 CFR 1.75(d)(1). 415 F.3d at 1316, 75 USPQ2d at 1329. See also< *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969) (Claim 9 was directed to a process of analyzing data generated by mass spectrographic analysis of a gas. The process comprised selecting the data to be analyzed by subjecting the data to a mathematical manipulation. The

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examiner made rejections under 35 U.S.C. 101 and 102. In the 35 U.S.C. 102 rejection, the examiner explained that the claim was anticipated by a mental process augmented by pencil and paper markings. The court agreed that the claim was not limited to using a machine to carry out the process since the claim did not explicitly set forth the machine. The court explained that “reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim,” to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.” The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the “PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant’s specification.”).

Previous **101** rejection has been withdrawn based on amendments to address *non-transitory* computer readable medium.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan).

Claims 1, 17 and 18: Enomoto discloses an apparatus comprising computer-readable medium containing a program which when executed performs an operation of controlling data flow in a network (figs. 1-4) comprising:

means for detecting a congestion condition at a network node in the network ([0126]; fig. 1: congestion control part A13 of node A1); and

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means for sending a congestion message from the network node (A1) at which the congestion condition is detected to one or more network nodes upstream of the congestion condition ([0130 & 0386]: wherein congestion notification sent back “upstream” to node A2 from A1; fig. 2: R11 → A13 → L105 → A14 → L104 → A2; transfer direction determination part A11);

said congestion message adapted to enable said one or more upstream network nodes to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154, 156 & 158]).

Enomoto does not very expressively mention “wherein address information is learned of at least one end-node associated with the congestion condition.” Kwan teaches address information is learned of at least one end-node associated with the congestion condition ([0037] lines 7-13: ...the data packets are marked with the congestion detection experience bit tag, and the destination endpoint 12 reads the source addresses of the marked data packets and notifies the associated source endpoint 10 of its contribution to the congestion event. Upon receipt of the notification or the CN message each source endpoint 10 identified as contributing to the congestion; see also [0042] lines 7-12). It would have been obvious to one of ordinary skill in the art at the time the invention was created to learn address of an end-node generating congestion notification as taught by Kwan to the congestion handling method of Enomoto for effective retransmission error recovery to recover lost packets based on the congestion state and quickly identify the root cause of a possible failure along a communication route and facilitate adjustment to traffic to ease the congestion.

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Claim 2, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion condition is determined when a queue maximum occupancy is exceeded ([0227]).

Claim 3, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion condition is determined when data received by a network node exceeds an output link capability of the node ([0227]).

Claim 6, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion message comprises an indication that a congestion condition exists ([0210]).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Paul et al (US 6,148,005, Paul).

Claims 4 and 5, applied to claims 1 and 4: Enomoto discloses the claimed invention yet not *very specifically* mentioned congestion condition is dependent of a queue data drop rate exceeding a threshold level wherein the threshold is determined by at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time. Paul mentions the *concept* of when a packet loss (drop) rate goes above a certain level (threshold), a network node (e.g. receiver) moves into a congested state (col. 8 lines 39-67; col. 10 lines 55-62). It would have been obvious to one of ordinary skill in the art at the time the invention was created to apply such congestion condition determination policies taught by Paul to the congestion buffer used

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amount measuring part of Enomoto (fig. 3 part A138) for effective retransmission error recovery to recover lost packets based on the congestion state.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Kawakami et al (US 2002/0136163 A1, Kawakami).

Claims 7, 8, 10 and 11, applied to claims 6, 1 and 8: Enomoto discloses the claimed invention yet the specifics of: the congestion message comprising a MAC address pair, which has source and destination addresses, of a traffic flow or an end-node contributing to the congestion are not *very expressively* mentioned. Kawakami mentions the congestion notification packet wherein a MAC address of a terminal (end-node) to which flow (data flow) control is to be applied is specified as the destination address of the packet; and in a data packet, the transmission source address specified in the packet is the MAC address of a source terminal, however in the case of a congestion notification packet a unique address is specified as the source address ([0108]). It would have been obvious to one of ordinary skill in the art to apply the concept of pair MAC (source, destination) address congestion message of Kawakami to the congestion notification of Enomoto to avoid packet loss from a congested flow.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US



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2006/0092840 A1, Kwan) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claim 11, and in further view of Lee et al (US 6,636,510 B1, Lee).

Claim 12, applied to claim 11: Enomoto, modified by Kwan and Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned dropping packets associated with the *destination address*. Lee discloses destination address modification for congestion may be accompanied by partial packet discard, through destination address modification of the remaining cells forming part of a multiple cell packet to remove the destination address for the congested port; and, sending with destination\_address modification and optional partial packet discard if the queue size is above the threshold (abstract; col. 3 lines 20-30). It would have been obvious to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the destination address based packet dropping policy of Lee to avoid overflow buffer in transmission.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claims 11 and 13, and in further view of Bare (US 7,283,476 B2).

Claims 13 and 14, applied to claims 11 and 13: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned the dropping of packets associated with *source and destination addresses* wherein when the *source end-node address is unknown*, the data flow is controlled by dropping those packets associated only with the destination address. Bare mentions both source and

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destination addresses are used to determine packet dropping conditions; and, that a packet with unknown source address is dropped directed to a specific destination MAC address (col. 13 lines 42-50 & 66-67). It would have been obvious to one of ordinary skill in the art at the time the invention was created to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the source and destination addresses as taught by Bare to maintain load balancing by checking whether a packet from a certain source address were received within a predetermined time window.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Agrawal et al (US 2003/0081546 A1, Agrawal).

Claims 15 and 16, applied to claims 1 and 15: Enomoto discloses the claimed invention yet not specifically about Service Level Agreement flow control and dropping policies. Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA), which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself ([0003]); wherein clearly flows are controlled by SLA and flows being *delayed* is interpreted as a condition for inability to drop since there are the options of "flows are delayed *or* dropped" specifically. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the flow control function of Enomoto to realize

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the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Lee, US 2005/0052994 A1: ORIGINATOR\_ID values, a receiver node may determine the location in the network that is affected by congestion [0047]

2. Peng et al, US 6650618 B1: an identifier to identify the node as being part of a congested span; and adjuster to adjust the output bandwidth of the node as a function of the congestion in the span (col. 2 lines 30-38)

3. Kawakami et al, US 7180857 B2: each said congestion notification packet which is transmitted upon occurrence of said second degree of congestion is a group-specific congestion notification packet containing group identifier information identifying said congestion origin terminal group (col. 20 lines 29-45)

4. Watanabe, US 6751195 B1: congestion notification data contains the identification of the source-end CCD or the identification of the source-end transmission line (col. 10 lines 50-62)

5. Doshi et al, US 6219339 B1: col. 2 lines 38-49 – teaches each AAL2 voice packet comprising a sequence number, the values of which range from 0 to n-1, and a source identifier, k; when traffic congestion is detected, the transmitter portion of the SSCS System selectively discards one packet from a source k at the input of the

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transmission buffer; fig. 8 – teaches each voice source 1-K is connected to a source node

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 10:30 am - 8:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571.272.1000.

*/Xavier Szewai Wong/*  
Patent Examiner AU 2462  
30<sup>th</sup> September 2010

<b>Notice of References Cited</b>	Application/Control No. 11/088,073		Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong		Art Unit 2462	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2006/0092840 A1	05-2006	Kwan et al.	370/230.1
*	B	US-6,219,339 B1	04-2001	Doshi et al.	370/235
*	C	US-6,650,618 B1	11-2003	Peng et al.	370/229
*	D	US-6,751,195 B1	06-2004	Watanabe, Yoshihiro	370/236.1
*	E	US-2005/0052994 A1	03-2005	Lee, Man-Ho Lawrence	370/230
*	F	US-7,180,857 B2	02-2007	Kawakami et al.	370/231
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>Search Notes</b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2462

SEARCHED			
Class	Subclass	Date	Examiner
370	229- 231,235,236,236.1,236.2,253,312,349,389,471,395.71	03.01.09	XSW
updated	above	05.06.2010	XSW
updated	above	09.30.2010	/XSW/

SEARCH NOTES		
Search Notes	Date	Examiner
EAST image, class and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	03.01.09	XSW
updated above	05.06.2010	XSW
Updated Above	09.30.2010	/XSW/

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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**EAST Search History****EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	7305	370/229,230,230.1,231,235.ccls. and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/30 16:33
L4	5	L3 and (end\$1node end\$1station (terminal end) adj (node station) root) with (ID identifier identification address) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/30 16:36
L5	5	L3 and (end\$1point (terminal end) adj point root) with (ID identifier identification address) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/30 16:42
L6	7	L3 and origin with (ID identifier identification address) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/30 16:45
S1	7015	370/229,230,230.1,231,235.ccls. and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:17
S2	1	S1 and (end\$1node (terminal end) adj (node station) root) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:19
S3	47	S1 and (end\$1node terminal node root) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:22
S4	2	S1 and (end\$1node terminal node root) with (ID identifier identification) with congest\$5 with caus\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:22
S5	36	S1 and (source origin\$5) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/05/07 04:44

**EAST Search History (Interference)**

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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

**Inventor(s):** Richa Malhotra  
**Case:** R Malhotra 7 (ALU/126709)  
**Serial No.:** 11/088,073 **Group Art Unit:** 2462  
**Filed:** March 23, 2005  
**Examiner:** Wong, Xavier S **Confirmation #:** 7089  
**Title:** METHOD AND APPARATUS FOR FLOW CONTROL OF  
DATA IN A NETWORK

**MAIL STOP AMENDMENT  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**RESPONSE**

In response to the non-final Office Action mailed October 6, 2010, please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for.

Applicant does not believe that any fee is due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 50-4802/ALU/126709.

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**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (previously presented) A method for controlling data flow in a network, comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

2. (original) The method of claim 1, wherein:

the congestion condition is determined when a queue maximum occupancy is exceeded.

3. (previously presented) The method of claim 1, wherein:

the congestion condition is determined when data received by a network node exceeds an output link capability of the node.

4. (original) The method of claim 1, wherein:

the congestion condition is determined when a queue data drop rate exceeds a threshold level.

5. (original) The method of claim 4, wherein:

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the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

6. (original) The method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists.
7. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.
8. (original) The method of claim 6, wherein:  
the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.
9. (cancelled)
10. (previously presented) The method of claim 1, wherein the address information is the MAC address of a destination end-node.
11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.
12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.
13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.
14. (previously presented) The method of claim 13, wherein:

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in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

15. (previously presented) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

16. (previously presented) The method of claim 15, further comprising:  
receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (previously presented) A non-transitory computer readable storage medium having stored thereon a program which, when executed by a computer, causes the computer to perform a method for controlling data flow in a network, the method comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

18. (previously presented) Apparatus for controlling data flow in a network comprising:

means for detecting a congestion condition at a network node in the network; and

means for sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

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wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

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**Remarks**

Claims 1-8 and 10-18 are pending in the application, with claims 1, 17 and 18 being independent.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al. (US 2003/0076781 A1, "Enomoto") in view of Kwan et al. (US 2006/0092840 A1, "Kwan").

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of Paul et al. (US 6,148,005, "Paul").

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of Kawakami et al. (US 2002/0136163 A1, "Kawakami").

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of Kawakami, applied to claim 11, and in further view of Lee et al. (U.S. Patent No. 6,636,510 B1, "Lee").

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of Kawakami as applied to claims 11 and 13, and in further view of Bare (U.S. Patent No. 7,283,476 B2, "Bare").

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of Agrawal et al (U.S. 2003/0081546 A1, "Agrawal").

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known

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prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

### **Rejection Under 35 U.S.C. 103(a)**

#### **Claims 1, 2, 3, 6, 17 and 18**

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan. The rejection is traversed.

Enomoto and Kwan, alone or in any permissible combination, fail to teach all elements of Applicant's independent claim 1.

Enomoto fails to teach or suggest at least the limitation of "sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition; wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Applicant's claim 1.

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Rather, Enomoto merely discloses a system in which a congestion control node, in response to detecting a congestion condition, sends a congestion notification to other congestion control nodes, where the congestion notification includes an allowable bandwidth amount and the address of the congestion control node that generates the congestion notification.

Specifically, with respect to the congestion notification, Enomoto states that “[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node.” (Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that “[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender.” (Enomoto, Para. 398, Emphasis added).

In other words, Enomoto merely discloses a system in which a congestion notification message includes an address of the node that generates the congestion notification message. Enomoto is devoid of any teaching or suggestion that a congestion message includes address information of at least one end-node associated with a congestion condition, as claimed in Applicant’s claim 1.

Thus, Applicant submits that Enomoto fails to teach or suggest at least the limitation of “sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition; wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

Furthermore, Kwan fails to bridge the substantial gap between Enomoto and Applicant’s independent claim 1.

Kwan discloses an intelligent fabric congestion detection apparatus and method provided to receive data packets from source endpoints and output the data packets to destination endpoints.

Kwan, however, fails to teach or suggest at least the limitation of “sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition; wherein said



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congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

Rather, Kwan merely discloses an arrangement in which (1) the intelligent fabric congestion detection apparatus, upon detection of a persistent congestion event, attaches a congestion experience bit tag to a header of each data packet output from the particular egress queue experiencing congestion and then outputs the marked data packet to the destination endpoint and (2) the destination endpoint receives and reads the source address of each data packet to determine whether one or more data packets have been marked with the congestion experience bit tag in order to identify each source endpoint contributing to the congestion and then sends a message to notify each identified source endpoint that is contributing to the congestion of the particular egress queue. (See Kwan, Paragraphs [0029] and [0033]).

Thus, Kwan merely discloses that a congestion detection node sends a congestion notification to a destination node and, therefore, fails to teach or suggest at least the limitation of “sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition; wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition,” as claimed in Applicant’s claim 1.

Thus, Applicant submits that a combination of Enomoto and Kwan (assuming *arguendo* that such a combination is possible) would merely teach an arrangement in which a congestion control node (1) sends a congestion notification to other congestion control nodes, where the congestion notification includes an allowable bandwidth amount and the address of the congestion control node that generates the congestion notification and (2) sends a congestion notification to a destination node, where the congestion notification includes an address of a source node. In other words, given that Enomoto and Kwan teach sending of congestion control messages having different types of address information (i.e., Enomoto has an address of the congestion control node that detected the congestion whereas Kwan has source address information) to different types of recipients

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(i.e., Enomoto sends the congestion control message to other congestion control nodes whereas Kwan sends the congestion control message to the destination node), a combination of Enomoto and Kwan (assuming *arguendo* that such a combination is possible) fails to teach or suggest the arrangement of Applicants' claim 1. Namely, a combination of Enomoto and Kwan (assuming *arguendo* that such a combination is possible) fails to teach or suggest "sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition; wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Applicant's claim 1.

As such, independent claim 1 is allowable under 35 U.S.C. 103(a) over Enomoto in view of Kwan. Similarly, independent claims 17 and 18 recite relevant limitations similar to those recited in independent claim 1 and, at least for the same reasons discussed above, independent claims 17 and 18 also are allowable under 35 U.S.C. 103(a) over Enomoto in view of Kwan. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is allowable under 35 U.S.C. 103(a) over Enomoto in view of Kwan.

Therefore, the rejection should be withdrawn.

#### **Claims 4 and 5**

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan further in view of Paul. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

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**Claims 7, 8, 10, and 11**

Claims 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan further in view of Kawakami. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

**Claim 12**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and Kawakami, applied to claim 11, and in further view of Lee. The rejection is traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

**Claims 13 and 14**

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and Kawakami, applied to claims 11 and 13, and in further view of Bare. The rejection is traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in

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view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

#### **Claims 15 and 16**

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto view Kwan and further in view of Agrawal. The rejections are traversed.

Applicant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

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**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Eamon Wall at (732) 542-2280 x120 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: 11/19/10



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Facsimile: 732-542-2283

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	8876948
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	19-NOV-2010
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	14:41:50
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
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**File Listing:**

<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
1		ALU126709eResponse_001.pdf	547048 77a9f3f980c357fb675ca6e78d4c9de94aeb e3ee	yes	13

Multipart Description/PDF files in .zip description

	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	13

**Warnings:****Information:****Total Files Size (in bytes):**

547048

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)

Approved for use through 1/31/2007. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed	
<b>APPLICATION AS FILED – PART I</b>										
(Column 1)			(Column 2)			SMALL ENTITY <input type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
			TOTAL			TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
<b>APPLICATION AS AMENDED – PART II</b>										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	11/19/2010	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	=	0		X \$52=	0	
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	=	0		X \$220=	0	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L FEE	0	
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=			X \$	=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=			X \$	=	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.										
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".										
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:  
/JASON B. EADDY/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.





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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	02/15/2011	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 25 James Way Eatontown, NJ 07724			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2462	
			MAIL DATE	DELIVERY MODE
			02/15/2011	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

11/088,073

**Applicant(s)**

MALHOTRA, RICHA

**Examiner**

Xavier Szewai Wong

**Art Unit**

2462

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19<sup>th</sup> November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 19<sup>th</sup> November 2010 have been considered but they are *not persuasive*.

Applicants raised the issue that neither **Enomoto** nor **Kwan** teaches “a congestion message... toward one or more network node upstream of the congestion condition... [said] congestion message comprises address information of at least one end-node associated with the congestion condition” (Remarks: pages 7-10). The examiner maintains that **Enomoto**, in combination with **Kwan**, addresses the concerned issue above.

First, Enomoto clearly shows a congestion message sent “upstream” in fig. 2 from A1 to node A2; fig. 2: R11 → A13 → L105 → A14 → L104 → A2; Enomoto *may not* have explicitly shown address information is learned of at least one *end-node* associated with the congestion. Secondly, Kwan cures the deficiency by stating in [0037] lines 7-13 “data packets are marked with the congestion detection experience bit tag, and the destination endpoint 12 reads the source addresses of the marked data packets and notifies the associated source endpoint 10 of its contribution to the congestion event. Upon receipt of the notification or the CN message each source endpoint 10 identified as contributing to the congestion.” It is *unclear* in the applicant's *claim limitation* whether the so-called *end-point* is referring to which type of end-point (e.g. from a source? a destination?). Therefore, by *broadest reasonable interpretation*, the concept and function of “a congestion message... toward one or more network node

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upstream of the congestion condition... [said] congestion message comprises address information of at least one end-node associated with the congestion condition” is met by Enomoto, in combination with Kwan.

MPEP chapter 2100, section 2111 R-5:

During patent examination, the pending claims must be “given their **broadest reasonable interpretation** consistent with the specification.” >The Federal Circuit’s en banc decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the “broadest reasonable interpretation” standard:

The Patent and Trademark Office (“PTO”) determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must “conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.” 37 CFR 1.75(d)(1). 415 F.3d at 1316, 75 USPQ2d at 1329. See also< *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969) (Claim 9 was directed to a process of analyzing data generated by mass spectrographic analysis of a gas. The process comprised selecting the data to be analyzed by subjecting the data to a mathematical manipulation. The examiner made rejections under 35 U.S.C. 101 and 102. In the 35 U.S.C. 102 rejection, the examiner explained that the claim was anticipated by a mental process augmented by pencil and paper markings. The court agreed that the claim was not limited to using a machine to carry out the process since the claim did not explicitly set forth the machine. The court explained that “reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim,’ to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.” The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the “PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage

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as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification.").

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan).

Claims 1, 17 and 18: Enomoto discloses an apparatus comprising computer-readable medium containing a program which when executed performs an operation of controlling data flow in a network (figs. 1-4) comprising:

means for detecting a congestion condition at a network node in the network ([0126]; fig. 1: congestion control part A13 of node A1); and

means for sending a congestion message from the network node (A1) at which the congestion condition is detected to one or more network nodes upstream of the congestion condition ([0130 & 0386]: wherein congestion notification sent back "upstream" to node A2 from A1; fig. 2: R11 → A13 → L105 → A14 → L104 → A2; transfer direction determination part A11);

said congestion message adapted to enable said one or more upstream network nodes to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154, 156 & 158]).

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Enomoto does not very expressively mention “wherein address information is learned of at least one end-node associated with the congestion condition.” Kwan teaches address information is learned of at least one end-node associated with the congestion condition ([0037] lines 7-13: ...the data packets are marked with the congestion detection experience bit tag, and the destination endpoint 12 reads the source addresses of the marked data packets and notifies the associated source endpoint 10 of its contribution to the congestion event. Upon receipt of the notification or the CN message each source endpoint 10 identified as contributing to the congestion; see also [0042] lines 7-12). It would have been obvious to one of ordinary skill in the art at the time the invention was created to learn address of an end-node generating congestion notification as taught by Kwan to the congestion handling method of Enomoto for effective retransmission error recovery to recover lost packets based on the congestion state and quickly identify the root cause of a possible failure along a communication route and facilitate adjustment to traffic to ease the congestion.

Claim 2, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion condition is determined when a queue maximum occupancy is exceeded ([0227]).

Claim 3, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion condition is determined when data received by a network node exceeds an output link capability of the node ([0227]).

Claim 6, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion message comprises an indication that a congestion condition exists ([0210]).

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Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Paul et al (US 6,148,005, Paul).

Claims 4 and 5, applied to claims 1 and 4: Enomoto discloses the claimed invention yet not *very specifically* mentioned congestion condition is dependent of a queue data drop rate exceeding a threshold level wherein the threshold is determined by at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time. Paul mentions the *concept* of when a packet loss (drop) rate goes above a certain level (threshold), a network node (e.g. receiver) moves into a congested state (col. 8 lines 39-67; col. 10 lines 55-62). It would have been obvious to one of ordinary skill in the art at the time the invention was created to apply such congestion condition determination policies taught by Paul to the congestion buffer used amount measuring part of Enomoto (fig. 3 part A138) for effective retransmission error recovery to recover lost packets based on the congestion state.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Kawakami et al (US 2002/0136163 A1, Kawakami).

Claims 7, 8, 10 and 11, applied to claims 6, 1 and 8: Enomoto discloses the claimed invention yet the specifics of: the congestion message comprising a MAC

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address pair, which has source and destination addresses, of a traffic flow or an end-node contributing to the congestion are not *very expressively* mentioned. Kawakami mentions the congestion notification packet wherein a MAC address of a terminal (end-node) to which flow (data flow) control is to be applied is specified as the destination address of the packet; and in a data packet, the transmission source address specified in the packet is the MAC address of a source terminal, however in the case of a congestion notification packet a unique address is specified as the source address ([0108]). It would have been obvious to one of ordinary skill in the art to apply the concept of pair MAC (source, destination) address congestion message of Kawakami to the congestion notification of Enomoto to avoid packet loss from a congested flow.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claim 11, and in further view of Lee et al (US 6,636,510 B1, Lee).

Claim 12, applied to claim 11: Enomoto, modified by Kwan and Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned dropping packets associated with the *destination address*. Lee discloses destination address modification for congestion may be accompanied by partial packet discard, through destination address modification of the remaining cells forming part of a multiple cell packet to remove the destination address for the congested port; and, sending with destination address modification and optional partial packet discard if the queue size is



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above the threshold (abstract; col. 3 lines 20-30). It would have been obvious to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the destination address based packet dropping policy of Lee to avoid overflow buffer in transmission.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claims 11 and 13, and in further view of Bare (US 7,283,476 B2).

Claims 13 and 14, applied to claims 11 and 13: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned the dropping of packets associated with *source and destination addresses* wherein when the *source end-node address is unknown*, the data flow is controlled by dropping those packets associated only with the destination address. Bare mentions both source and destination addresses are used to determine packet dropping conditions; and, that a packet with unknown source address is dropped directed to a specific destination MAC address (col. 13 lines 42-50 & 66-67). It would have been obvious to one of ordinary skill in the art at the time the invention was created to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the source and destination addresses as taught by Bare to maintain load balancing by checking whether a packet from a certain source address were received within a predetermined time window.

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Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Agrawal et al (US 2003/0081546 A1, Agrawal).

Claims 15 and 16, applied to claims 1 and 15: Enomoto discloses the claimed invention yet not specifically about Service Level Agreement flow control and dropping policies. Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA), which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself ([0003]); wherein clearly flows are controlled by SLA and flows being *delayed* is interpreted as a condition for inability to drop since there are the options of “flows are delayed *or* dropped” specifically. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the flow control function of Enomoto to realize the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Szewai Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 10:30 am - 8:00 pm (EST).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571.272.1000.

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Art Unit: 2462

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/Xavier Szewai Wong/  
Patent Examiner AU 2462  
13<sup>th</sup> February 2011

<b>Search Notes</b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2462

SEARCHED			
Class	Subclass	Date	Examiner
370	229- 231,235,236,236.1,236.2,253,312,349,389,471,395.71	03.01.09	XSW
updated	above	05.06.2010	XSW
updated	above	09.30.2010	/XSW/

SEARCH NOTES		
Search Notes	Date	Examiner
EAST image, class and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	03.01.09	XSW
updated above	05.06.2010	XSW
Updated Above	2011.02.14	/XSW/

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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**EAST Search History****EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	7501	370/229,230,230.1,231,235.ccls. and (@rld < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/02/14 04:27
L4	1	L3 and (end\$1node (terminal end) adj (node station) root) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/02/14 04:27
L5	50	L3 and (end\$1node terminal node root) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/02/14 06:05
L6	7	L3 and origin with (ID identifier identification address) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/02/14 06:05
L7	69234	(Malhotra).in. (Alcatel Lucent).as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/02/14 06:05
L8	9	L7 and congestion.clm. and upstream.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/02/14 06:05

**EAST Search History (Interference)**

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**2/ 14/ 2011 6:11:45 AM****C:\ Documents and Settings\ xwong\ Desktop\ Amendo\ Malhotra\ Malhotra\_09.30.2010.wsp**

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>NOTICE OF APPEAL FROM THE EXAMINER TO THE BOARD OF PATENT APPEALS AND INTERFERENCES</b>		Docket Number (Optional)  Malhotra 7 (LCNT/126709)	
In re Application of Malhotra 7		Application Number 11/088,073	
For METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		Filed 3/23/05	
Art Unit 2462		Examiner Xavier S. Wong	

Applicant hereby **appeals** to the Board of Patent Appeals and Interferences from the last decision of the examiner.

The fee for this Notice of Appeal is (37 CFR 41.20(b)(1)) \$ 0

☐ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by half, and the resulting fee is: \$           

☐ A check in the amount of the fee is enclosed.

☒ Applicants filed a Notice of Appeal on 5/29/09. The Appeal fee at that time was \$540 and the fee was paid by credit card. Therefore, **no Appeal Fee is due at this time**. In the event any further fees are due, the Commissioner is authorized to charge any such fees to Counsel's Deposit Account 50-4802..

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No.                                 .

☐ A petition for an extension of time under 37 CFR 1.136(a) (PTO/SB/22) is enclosed.


I am the

☐ applicant /inventor.

☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☒ attorney or agent of record.  
Registration number 39,414

☐ attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34.                                 

  
 Signature  
 Eamon J. Wall  
 Typed or printed name  
 732-842-8110 X120  
 Telephone number  
 3/17/11  
 Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of            forms are submitted.

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	9686912
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	18-MAR-2011
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	10:58:57
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
------------------------	----

**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Notice of Appeal Filed	ALU126709eNotApp_001.pdf	49405 7042b23b5af62f397ccf9739ba651c94618a65c9	no	1

**Warnings:****Information:**



This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Inventor(s):</b>	Richa Malhotra		
<b>Case:</b>	R Malhotra 7 (ALU/126709)		
<b>Serial No.:</b>	11/088,073	<b>Group Art Unit:</b>	2462
<b>Filed:</b>	March 23, 2005		
<b>Examiner:</b>	Wong, Xavier S	<b>Confirmation #:</b>	7089
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		

**MAIL STOP APPEAL BRIEF-PATENTS  
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P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**SIR:**

**APPEAL BRIEF**

Appellant submits this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2462 mailed February 15, 2011 finally rejecting claims 1-8 and 10-18.

In the event that an extension of time is required for this Appeal Brief to be considered timely, and a petition therefor does not otherwise accompany this Appeal Brief, any necessary extension of time is hereby petitioned for.

The \$540 Appeal Brief fee was paid at the time of filing Appellant's Appeal Brief filed on July 28, 2009. Appellant does not believe that any additional fees are due. In the event Appellant is incorrect, the Commissioner is authorized to charge any other fees to Deposit Account No. 50-4802/ALU/126709.

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**REAL PARTY IN INTEREST**

The real party in interest is Alcatel-Lucent.

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**RELATED APPEALS AND INTERFERENCES**

Appellant asserts that no appeals or interferences are known to Appellant, Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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**STATUS OF CLAIMS**

Claims 1-8 and 10-18 are pending in the application. Claims 1-18 were originally presented in the application. Claims 1, 3, 10 and 12-18 have been amended. Claim 9 has been canceled. The final rejection of claims 1-8 and 10-18 is appealed.

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**STATUS OF AMENDMENTS**

All claim amendments have been entered.

**SUMMARY OF CLAIMED SUBJECT MATTER**

Embodiments include a method, computer readable storage medium, and apparatus for controlling data flow in a network using a congestion message.

In one embodiment, a method includes detecting a congestion condition at a network node in the network and sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition. The congestion message includes address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

In one embodiment, a non-transitory computer readable storage medium has stored thereon a program which, when executed by a computer, causes the computer to perform a method for controlling data flow in a network, the method including detecting a congestion condition at a network node in the network and sending a congestion message from the network node at which the congestion condition is detected to one or more network nodes upstream of the congestion condition. The congestion message includes address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

In one embodiment, an apparatus includes means for detecting a congestion condition at a network node in the network and means for sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition. The congestion message includes address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

For the convenience of the Board of Patent Appeals and Interferences, Appellant's independent claims 1, 17, and 18 are presented below with citations to various figures and appropriate citations to at least one portion of the Specification for elements of the appealed claims.



Claim 1 positively recites (with reference numerals, where applicable, and cites to at least one portion of the Specification added):

1. (previously presented) A method (300) for controlling data flow in a network (100, 200), comprising: (FIGs. 1-3; Pg. 3, Lines 24 – 34; Pg. 4, Lines 1 – 24; Pg. 4, Line 34 – Pg. 5, Line 16)

detecting (303) a congestion condition at a network node (102) in the network (100, 200); and (Pg. 5, Line 17 – Pg. 6, Line 3; Pg. 6, Lines 28 – 33)

sending (304, 306, 308) a congestion message from the network node (102) at which the congestion condition is detected toward one or more network nodes (102) upstream of the congestion condition; (Pg. 6, Lines 3 – 6; Pg. 6, Lines 25 – 27)

wherein said congestion message comprises address information of at least one end-node (102) associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition. (Pg. 6, Lines 6 – 22; Pg. 7, Line 1 – Pg. 8, Line 14; Pg. 8, Line 23 – Pg. 9, Line 8)

Claim 17 positively recites (with reference numerals, where applicable, and cites to at least one portion of the Specification added):

17. (previously presented) A non-transitory computer readable storage medium (436) having stored thereon a program (432, 438) which, when executed by a computer, causes the computer to perform a method for controlling data flow in a network (100, 200), the method comprising: (FIGs. 1-4; Pg. 3, Lines 24 – 34; Pg. 4, Lines 1 – 24; Pg. 4, Line 34 – Pg. 5, Line 16; Pg. 9, Lines 9 – 31)

detecting (303) a congestion condition at a network node (106) in the network; and (Pg. 5, Line 17 – Pg. 6, Line 3; Pg. 6, Lines 28 – 33)

sending (304, 306, 308) a congestion message from the network node (106) at which the congestion condition is detected toward one or

more network nodes (106) upstream of the congestion condition; (Pg. 6, Lines 3 – 6; Pg. 6, Lines 25 – 27)

wherein said congestion message comprises address information of at least one end-node (102) associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition. (Pg. 6, Lines 6 – 22; Pg. 7, Line 1 – Pg. 8, Line 14; Pg. 8, Line 23 – Pg. 9, Line 8)

Claim 18 positively recites (with reference numerals, where applicable, and cites to at least one portion of the Specification added):

18. (previously presented) Apparatus (102) for controlling data flow in a network (100, 200) comprising: (FIGs. 1-4; Pg. 3, Lines 24 – 34; Pg. 4, Lines 1 – 24; Pg. 4, Line 34 – Pg. 5, Line 16; Pg. 9, Lines 9 – 31)

means for detecting (424) a congestion condition at a network node (102) in the network (100, 200); and (Pg. 5, Line 17 – Pg. 6, Line 3; Pg. 6, Lines 28 – 33)

means for sending (424) a congestion message from the network node (102) at which the congestion condition is detected toward one or more network nodes (102) upstream of the congestion condition; (Pg. 6, Lines 3 – 6; Pg. 6, Lines 25 – 27)

wherein said congestion message comprises address information of at least one end-node (106) associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition. (Pg. 6, Lines 6 – 22; Pg. 7, Line 1 – Pg. 8, Line 14; Pg. 8, Line 23 – Pg. 9, Line 8)

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

- I. Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0076781 A1 by Enomoto et al. (hereinafter “Enomoto”) in view of U.S. Patent Application Publication No. 2006/0092840 A1 by Kwan et al. (hereinafter “Kwan”).
- II. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of U.S. Patent No. 6,148,005 to Paul et al. (hereinafter “Paul”).
- III. Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of U.S. Patent Application Publication No. 2002/0136163 A1 by Kawakami et al. (hereinafter “Kawakami”).
- IV. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of Kawakami, applied to claim 11, and further in view of U.S. Patent No. 6,636,510 B1 to Lee et al. (hereinafter “Lee”).
- V. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of Kawakami as applied to claims 11 and 13, and in further view of U.S. Patent No. 7,283,476 B2 to Bare (hereinafter “Bare”).
- VI. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and further in view of U.S. Patent Application Publication No. 2003/0081546 A1 by Agrawal et al (hereinafter “Agrawal”).

## **ARGUMENTS**

### **I. Rejection of Claims 1, 2, 3, 6, 17 and 18 Under 35 U.S.C. 103(a)**

#### **A. Claims 1, 2, 3, and 6**

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan. The rejection is traversed.

*1. The Office Action failed to establish a prima facie case of obviousness of Appellant's independent claim 1, because the portions of Kwan cited in the Office Action to show certain features of Appellant's independent claim 1 fail to teach or suggest those features.*

The Office Action failed to establish a *prima facie* case of obviousness of Appellant's independent claim 1, because the portions of Kwan cited in the Office Action to show certain features of Appellant's independent claim 1 fail to teach or suggest those features.

The Office Action cites specific portions of Kwan (namely, Paragraph [0037], Lines 7 – 13 and Paragraph [0042], Lines 7-12), asserting that the cited portions of Kwan disclose the feature of “wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.” Appellant disagrees.

As recited in Appellant's claim 1, a congestion message is sent from a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition, where the congestion message includes address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

By contrast, Kwan discloses an arrangement in which (1) the intelligent fabric congestion detection apparatus, upon detection of a persistent congestion event, attaches

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a congestion experience bit tag to a header of each data packet output from the particular egress queue experiencing congestion and then outputs the marked data packet to the destination endpoint and (2) the destination endpoint receives and reads the source address of each data packet to determine whether one or more data packets have been marked with the congestion experience bit tag in order to identify each source endpoint contributing to the congestion and then sends a message to notify each identified source endpoint that is contributing to the congestion of the particular egress queue. (See Kwan, Paragraphs [0029] and [0033]). This is further described in the portions of Kwan cited in the Office Action.

The first portion of Kwan cited in the Office Action merely describes the response of a source endpoint to the notification received from the destination endpoint. Namely, this portion of Kwan states that “[u]pon receipt of the notification or the CN message each source endpoint 10 identified as contributing to the congestion may either reduce the transmission rate, pause, or interrupt the transmission of the data packets.” (See Kwan, Paragraph [0037], Lines 7-9). In other words, this portion of Kwan merely discusses a message sent from a destination endpoint to a source endpoint. This portion of Kwan fails to teach or suggest a congestion message that includes address information of at least one end-node associated with the congestion condition where the congestion message is sent from a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition.

The second portion of Kwan cited in the Office Action merely describes the operation of a destination endpoint in determining whether received packets are marked with a congestion experienced bit. Namely, this portion of Kwan states that “[a]t operation 390, the method receives and reads the source address associated with each data packet to determine whether one or more data packets have been marked with the congestion experience bit tag during transit through the controller 20 to thereby identify each source endpoint 32 contributing to the congestion.” (See Kwan, Paragraph [0042], Lines 7-12). In other words, this portion of Kwan merely discusses a message sent from an intelligent fabric congestion detection apparatus that detects a persistent congestion event to a destination endpoint. This portion of Kwan fails to teach or suggest a congestion message that includes address information of at least one end-node associated

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with the congestion condition where the congestion message is sent from a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition.

Thus, Appellant submits that the Office Action failed to establish a *prima facie* case of obviousness of Appellant's independent claim 1, because the portions of Kwan cited in the Office Action to show certain features of Appellant's independent claim 1 fail to teach or suggest those features.

2. The Office Action failed to establish a prima facie case of obviousness of Appellant's independent claim 1, because the suggested combination of Enomoto and Kwan fails to teach or suggest all of the elements of Appellant's independent claim 1.

The Office Action failed to establish a *prima facie* case of obviousness of Appellant's independent claim 1, because the suggested combination of Enomoto and Kwan fails to teach or suggest all of the elements of Appellant's independent claim 1.

The Office Action cites specific portions of Enomoto, which disclose a system in which a congestion control node, in response to detecting a congestion condition, sends a congestion notification to other congestion control nodes, where the congestion notification includes an allowable bandwidth amount and the address of the congestion control node that generates the congestion notification. Specifically, with respect to the congestion notification, Enomoto states that "[t]his congestion notification includes not only the allowable output amount but also an address for a notification generation node." (See Enomoto, Para. 210, Emphasis added). Similarly, Enomoto states that "[t]his congestion notification includes not only the control command determined by the steps 305-308 but also a node ID of a congestion notification sender." (See Enomoto, Para. 398, Emphasis added). In other words, Enomoto merely discloses a system in which a congestion notification message includes an address of the node that generates the congestion notification message.

As described hereinabove, Kwan discloses an arrangement in which (1) the intelligent fabric congestion detection apparatus, upon detection of a persistent congestion event, attaches a congestion experience bit tag to a header of each data packet output from the particular egress queue experiencing congestion and then outputs the

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marked data packet to the destination endpoint and (2) the destination endpoint receives and reads the source address of each data packet to determine whether one or more data packets have been marked with the congestion experience bit tag in order to identify each source endpoint contributing to the congestion and then sends a message to notify each identified source endpoint that is contributing to the congestion of the particular egress queue. (See Kwan, Paragraphs [0029] and [0033]).

Thus, Appellant submits that a combination of Enomoto and Kwan (assuming *arguendo* that such a combination is possible) would merely teach an arrangement in which a congestion control node (1) sends a congestion notification to other congestion control nodes, where the congestion notification includes an allowable bandwidth amount and the address of the congestion control node that generates the congestion notification and (2) sends a congestion notification to a destination node, where the congestion notification includes an address of a source node. In other words, given that Enomoto and Kwan teach sending of congestion control messages having different types of address information (i.e., Enomoto has an address of the congestion control node that detected the congestion whereas Kwan has source address information) to different types of recipients (i.e., Enomoto sends the congestion control message to other congestion control nodes whereas Kwan sends the congestion control message to the destination node), a combination of Enomoto and Kwan (assuming *arguendo* that such a combination is even possible) fails to teach or suggest the arrangement of Appellant's claim 1. Namely, a combination of Enomoto and Kwan (assuming *arguendo* that such a combination is possible) fails to teach or suggest "sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition; wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition," as claimed in Appellant's claim 1.

Thus, Appellant submits that the Office Action failed to establish a *prima facie* case of obviousness of Appellant's independent claim 1, because the suggested combination of Enomoto and Kwan fails to teach or suggest all of the elements of Appellant's independent claim 1.



3. The Office Action failed to establish a prima facie case of obviousness of Appellant's independent claim 1, because the Examiner failed to consider all of the words of Appellant's claim 1 in judging the patentability of Appellant's independent claim 1.

The Office Action failed to establish a *prima facie* case of obviousness of Appellant's independent claim 1, because the Examiner failed to consider all of the words of Appellant's claim 1 in judging the patentability of Appellant's independent claim 1.

In purporting to discuss Appellant's claim 1, the Examiner asserts that "Enomoto does not very expressively mention 'wherein address information is learned of at least one end-node associated with the congestion condition'" and that "Kwan teaches address information is learned of at least one end-node associated with the congestion condition." (See Office Action, Pg. 5). However, it is noted that the limitation of Appellant's claim 1 which the Examiner purports to discuss states that "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition."

Similarly, in purporting to discuss Appellant's claim 1, the Examiner states that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was created to learn address of an end-node generating congestion notification as taught by Kwan...." (See Office Action, Pg. 5, Emphasis added). In other words, the Examiner appears to assert that Kwan discloses that the address of an end-node that generates a congestion notification is learned. By contrast, as noted above, the limitation of Appellant's claim 1 which the Examiner purports to discuss states that "wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition." Furthermore, it is noted that the cited portions of Enomoto, not Kwan, indicate that the congestion notification message includes an address of the node that generates the congestion notification message, such that the Examiner's statement does not comport with the teachings of the cited portions of Kwan and the Examiner's other discussions of Enomoto and Kwan in the Office Action.



Appellant submits that, in the Office Action, the Examiner clearly misquotes features of Appellant's claim 1 and, similarly, discusses alleged teachings of Enomoto and Kwan, in a manner indicative that the Examiner has failed to consider all of the words of Appellant's claim 1 in judging the patentability of Appellant's claim 1.

Thus, Appellant submits that the Office Action failed to establish a *prima facie* case of obviousness of Appellant's independent claim 1, because the Examiner failed to consider all of the words of Appellant's independent claim 1 in judging the patentability of Appellant's claim 1.

4. The Final Office Action failed to establish a prima facie case of obviousness of Appellant's independent claim 1, because the Examiner fails to provide an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness of Appellant's independent claim 1.

Appellant submits that the Examiner fails to provide an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness of Appellant's claim 1.

In the Office Action, in an attempt to provide reasoning for the alleged obviousness of Appellant's claim 1, the Examiner asserts that:

"It would have been obvious to one of ordinary skill in the art at the time the invention was created to learn address of an end-node generating congestion notification as taught by Kwan to the congestion handling method of Enomoto for effective retransmission error recovery to recover lost packets based on the congestion state and quickly identify the root cause of a possible failure along a communication route and facilitate adjustment to traffic to ease the congestion."

[See Office Action, Pg. 5].

Appellant submits that the Examiner's reasoning is unclear, inconsistent, and does not address the features of Appellant's claim 1 and, thus, fails to provide an articulated reasoning, with a rational underpinning, to support a legal conclusion of obviousness of Appellant's claim 1. The Examiner references an end-node generating congestion notification which, as described hereinabove, appears to be unrelated to Appellant's claim 1. Additionally, it is unclear as to what is meant by "effective retransmission error recovery to recover lost packets based on the congestion state," at least because it is

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unclear how lost packets would be recovered based on congestion state and, further, this statement appears to be unrelated to the features of Appellant's claim 1. Similarly, it also is unclear as to what is meant by "effective retransmission error recovery to...quickly identify the root cause of a possible failure along a communication route," at least because, again, it is unclear how retransmission error recovery would identify a root cause of a failure and, further, this statement appears to be unrelated to the features of Appellant's claim 1. Thus, at least for these reasons, Appellant submits that the Examiner's reasoning is unclear, inconsistent, and does not address the features of Appellant's claim 1 and, thus, fails to provide an articulated reasoning, with a rational underpinning, to support a legal conclusion of obviousness of Appellant's claim 1.

Thus, at least for these reasons, Appellant submits that the Office Action fails to establish a *prima facie* case of obviousness of Appellant's independent claim 1, because the Examiner fails to provide an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness of Appellant's independent claim 1.

#### 5. Conclusion

As such, Appellant submits that the Office Action failed to establish *prima facie* case of obviousness of Appellant's independent claim 1 in view of Enomoto and Kwan. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is allowable.

Therefore, the rejection should be withdrawn.

#### **B. Claim 17**

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan. The rejection is traversed.

As described hereinabove, the Office Action failed to establish a *prima facie* case of obviousness of Appellant's independent claim 1.

Appellant's independent claim 17 recites limitations similar to those of independent claim 1. Thus, at least for the reasons provided hereinabove with respect to

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Appellant's independent claim 1, the Office Action also failed to establish a *prima facie* case of obviousness of Appellant's independent claim 17.

Therefore, the rejection should be withdrawn.

### **C. Claim 18**

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan. The rejection is traversed.

As described hereinabove, the Office Action failed to establish a *prima facie* case of obviousness of Appellant's independent claim 1.

Appellant's independent claim 18 recites limitations similar to those of independent claim 1. Thus, at least for the reasons provided hereinabove with respect to Appellant's independent claim 1, the Office Action also failed to establish a *prima facie* case of obviousness of Appellant's independent claim 18.

Therefore, the rejection should be withdrawn.

## **II. Rejection of Claims 4 and 5 Under 35 U.S.C. 103(a)**

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan further in view of Paul. The rejections are traversed.

Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejections should be withdrawn.

## **III. Rejection of Claims 7, 8, 10, and 11 Under 35 U.S.C. 103(a)**

Claims 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan further in view of Kawakami. The rejections are traversed.

Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

#### **IV. Rejection of Claim 12 Under 35 U.S.C. 103(a)**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and Kawakami, applied to claim 11, and in further view of Lee. The rejection is traversed.

Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

#### **V. Rejection of Claims 13 and 14 Under 35 U.S.C. 103(a)**

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto in view of Kwan and Kawakami, applied to claims 11 and 13, and in further view of Bare. The rejection is traversed.

Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

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**VI. Rejection of Claims 15 and 16 Under 35 U.S.C. 103(a)**

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto view Kwan and further in view of Agrawal. The rejections are traversed.

Appellant notes that this ground of rejection applies only to dependent claims, and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Enomoto in view of Kwan. Since such rejection has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Enomoto and Kwan to render the independent claims unpatentable, this ground of rejection cannot be maintained.

Therefore, the rejection should be withdrawn.

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**CONCLUSION**

Thus, Appellant submits that all of the claims presently in the application are allowable.

For the reasons advanced above, Appellant respectfully urges that the rejection of claims 1-8 and 10-18 is improper. Reversal of the rejection of the Office Action is respectfully requested.

Respectfully submitted,

Dated: \_\_\_\_\_

4/5/11



\_\_\_\_\_  
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**CLAIMS APPENDIX**

1. (previously presented) A method for controlling data flow in a network, comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

2. (original) The method of claim 1, wherein:

the congestion condition is determined when a queue maximum occupancy is exceeded.

3. (previously presented) The method of claim 1, wherein:

the congestion condition is determined when data received by a network node exceeds an output link capability of the node.

4. (original) The method of claim 1, wherein:

the congestion condition is determined when a queue data drop rate exceeds a threshold level.

5. (original) The method of claim 4, wherein:

the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

6. (original) The method of claim 1, wherein:

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the congestion message comprises an indication that a congestion condition exists.

7. (original) The method of claim 6, wherein:

the congestion message comprises a MAC address associated with a traffic flow to be restricted such that the congestion may be reduced.

8. (original) The method of claim 6, wherein:

the congestion message comprises a MAC address pair associated with a traffic flow to be restricted such that the congestion may be reduced.

9. (cancelled)

10. (previously presented) The method of claim 1, wherein the address information is the MAC address of a destination end-node.

11. (original) The method of claim 8, wherein the MAC address pair is the source address and destination address of a data flow contributing to the congestion condition.

12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.

13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.

14. (previously presented) The method of claim 13, wherein:

in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.



15. (previously presented) The method of claim 1, wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

16. (previously presented) The method of claim 15, further comprising:  
receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (previously presented) A non-transitory computer readable storage medium having stored thereon a program which, when executed by a computer, causes the computer to perform a method for controlling data flow in a network, the method comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

18. (previously presented) Apparatus for controlling data flow in a network comprising:

means for detecting a congestion condition at a network node in the network; and

means for sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition.

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Page 25 of 26

**EVIDENCE APPENDIX**

None

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Page 26 of 26

**RELATED PROCEEDINGS APPENDIX**

None

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	9822981
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	06-APR-2011
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	15:46:45
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Appeal Brief Filed	ALU126709eAppBr_001.pdf	880566 a7548d65ca301acf32c50d676d0dd3be6904eb82	no	26

**Warnings:****Information:**

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	06/27/2011	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 25 James Way Eatontown, NJ 07724			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2462	
			MAIL DATE	DELIVERY MODE
			06/27/2011	PAPER

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The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 11/088,073  
Filing Date: March 23, 2005  
Appellant(s): MALHOTRA, RICHA

---

Eamon J. Wall  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 6<sup>th</sup> April 2011 appealing from the Office action mailed 15<sup>th</sup> February 2011.

I. Real Party in Interest (37 C.F.R § 41.37(c)(1)(i))

A statement identifying the real party in interest is contained in the brief.

II. Related Appeals and Interferences (37 C.F.R § 41.37 (c)(1)(ii))

A statement of related appeals and interferences contained in the brief is

Application/Control Number: 11/088,073  
Art Unit: 2462

Page 3

correct.

III. Status of Claims (37 C.F.R § 41.37 (c)(1)(iii))

A statement of the status of the claims contained in the brief is correct.

IV. Status of Amendments (37 C.F.R § 41.37 (c)(1)(iv))

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

V. Summary of Claimed Subject Matter (37 C.F.R § 41.37 (c)(1)(v))

The summary of claimed subject matter contained in the brief is correct.

VI. Grounds of Rejection to be Reviewed on Appeal (37 C.F.R § 41.37 (c)(1)(vi))

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

***Grounds of Rejection***

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 3, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan).

Claims 1, 17 and 18: Enomoto discloses an apparatus comprising computer-readable medium containing a program which when executed performs an operation of controlling data flow in a network (figs. 1-4) comprising:

means for detecting a congestion condition at a network node in the network



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([0126]; fig. 1: congestion control part A13 of node A1); and

means for sending a congestion message from the network node (A1) at which the congestion condition is detected to one or more network nodes upstream of the congestion condition ([0130 & 0386]: wherein congestion notification sent back “upstream” to node A2 from A1; fig. 2: R11 → A13 → L105 → A14 → L104 → A2; transfer direction determination part A11);

said congestion message adapted to enable said one or more upstream network nodes to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition ([0154, 156 & 158]).

Enomoto does not very expressively mention “wherein address information is learned of at least one end-node associated with the congestion condition.” Kwan teaches address information is learned of at least one end-node associated with the congestion condition ([0037] lines 7-13: ...the data packets are marked with the congestion detection experience bit tag, and the destination endpoint 12 reads the source addresses of the marked data packets and notifies the associated source endpoint 10 of its contribution to the congestion event. Upon receipt of the notification or the CN message each source endpoint 10 identified as contributing to the congestion; see also [0042] lines 7-12). It would have been obvious to one of ordinary skill in the art at the time the invention was created to learn address of an end-node generating congestion notification as taught by Kwan to the congestion handling method of Enomoto for effective retransmission error recovery to recover lost packets based on

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the congestion state and quickly identify the root cause of a possible failure along a communication route and facilitate adjustment to traffic to ease the congestion.

Claim 2, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion condition is determined when a queue maximum occupancy is exceeded ([0227]).

Claim 3, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion condition is determined when data received by a network node exceeds an output link capability of the node ([0227]).

Claim 6, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion message comprises an indication that a congestion condition exists ([0210]).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Paul et al (US 6,148,005, Paul).

Claims 4 and 5, applied to claims 1 and 4: Enomoto discloses the claimed invention yet not *very specifically* mentioned congestion condition is dependent of a queue data drop rate exceeding a threshold level wherein the threshold is determined by at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time. Paul mentions the *concept* of when a packet loss (drop) rate goes above a certain level (threshold), a network node (e.g. receiver) moves into a congested state (col. 8 lines 39-67; col. 10 lines 55-62). It would have been obvious to one of ordinary skill in the art at the time the invention was created to apply

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such congestion condition determination policies taught by Paul to the congestion buffer used amount measuring part of Enomoto (fig. 3 part A138) for effective retransmission error recovery to recover lost packets based on the congestion state.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Kawakami et al (US 2002/0136163 A1, Kawakami).

Claims 7, 8, 10 and 11, applied to claims 6, 1 and 8: Enomoto discloses the claimed invention yet the specifics of: the congestion message comprising a MAC address pair, which has source and destination addresses, of a traffic flow or an end-node contributing to the congestion are not *very expressively* mentioned. Kawakami mentions the congestion notification packet wherein a MAC address of a terminal (end-node) to which flow (data flow) control is to be applied is specified as the destination address of the packet; and in a data packet, the transmission source address specified in the packet is the MAC address of a source terminal, however in the case of a congestion notification packet a unique address is specified as the source address ([0108]). It would have been obvious to one of ordinary skill in the art to apply the concept of pair MAC (source, destination) address congestion message of Kawakami to the congestion notification of Enomoto to avoid packet loss from a congested flow.

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Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claim 11, and in further view of Lee et al (US 6,636,510 B1, Lee).

Claim 12, applied to claim 11: Enomoto, modified by Kwan and Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned dropping packets associated with the *destination address*. Lee discloses destination address modification for congestion may be accompanied by partial packet discard, through destination address modification of the remaining cells forming part of a multiple cell packet to remove the destination address for the congested port; and, sending with destination address modification and optional partial packet discard if the queue size is above the threshold (abstract; col. 3 lines 20-30). It would have been obvious to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the destination address based packet dropping policy of Lee to avoid overflow buffer in transmission.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claims 11 and 13, and in further view of Bare (US 7,283,476 B2).

Claims 13 and 14, applied to claims 11 and 13: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned the dropping of packets associated with *source and destination addresses* wherein when

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the *source end-node address is unknown*, the data flow is controlled by dropping those packets associated only with the destination address. Bare mentions both source and destination addresses are used to determine packet dropping conditions; and, that a packet with unknown source address is dropped directed to a specific destination MAC address (col. 13 lines 42-50 & 66-67). It would have been obvious to one of ordinary skill in the art at the time the invention was created to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the source and destination addresses as taught by Bare to maintain load balancing by checking whether a packet from a certain source address were received within a predetermined time window.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Agrawal et al (US 2003/0081546 A1, Agrawal).

Claims 15 and 16, applied to claims 1 and 15: Enomoto discloses the claimed invention yet not specifically about Service Level Agreement flow control and dropping policies. Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA), which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself ([0003]); wherein clearly flows are controlled by SLA and flows being *delayed* is interpreted as a condition for inability to drop since there are the options of “flows are delayed *or* dropped” specifically. It would have been obvious to one of ordinary skill in

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the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the flow control function of Enomoto to realize the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

VII. Argument (37 C.F.R § 41.37 (c)(1)(vii))

### ***Response to Arguments***

#### **Argument #A for claims 1, 2, 3 and 6:**

**Issues #1-4:** Appellant, in general, argues that Enomoto and Kwan failed to establish a prima facie case of obviousness of independent claim 1 because portions of Kwan cited in the Office Action (dated 15<sup>th</sup> February 2011) failed to show certain features of the independent claim 1. Appellant disagrees that Enomoto, in combination with Kwan, shows “a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition... address information of at least one end-node associated with the congestion condition.”

#### **Examiner's response –**

The examiner first reminds the appellant that although the claims are interpreted in light of the specification, *limitations from the specification* are **not read into the claims**. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The examiner interprets that in **Enomoto** figure 1, for example, a congestion notification message is transferred from congestion control node A1 to congestion control node A2 through link R11 to notify the congestion control node A2 that

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congestion control node A1 has experienced a congestion at client end-node C1 [see paragraphs 0109 and 0113-0115]. Further, *in reference to* said link R11 and said congestion control node A1, said *congestion node A2* is “*Upstream*” node of said congestion node A1. Thus, this clearly reads on “a network node at which the congestion condition is detected (at A1) toward one or more network nodes *upstream* of the congestion condition (at A2).”

However, Enomoto *may not* have very explicitly/clearly mentioned “address information of at least one end-node associated with the congestion condition”, therefore, **Kwan** is brought in to cure this *assumed* deficiency. Kwan teaches in paragraph 0033 lines 4-6 “destination endpoint may need to send a Congestion Notification (CN) message to each source endpoint that is contributing to the congestion event”; and, paragraph 0037 lines 7-14 mention “the destination endpoint reads [the] source addresses of the marked data packets and notifies the associated source endpoint of its contribution to the congestion event. Upon receipt, of the congestion notification of the CN message, each source endpoint identified as contributing to the congestion may either reduce the transmission rate, pause, or interrupt the transmission of the data packets” (emphasis added). Therefore, in order for those *source endpoints that caused congestion to be identified*, their source addresses *must* be known for identification purposes.

Therefore, the rejection of claim 1 should be maintained.

**Arguments #B and #C (Issues II – IV)::**

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Appellant merely argues patentability because of the claims' dependence on claim 1, which is addressed above.

For the above reasons, it is believed that the rejections should be sustained by the Honorable Board.

VIII. Claims Appendix (37 C.F.R § 41.37 (c)(1)(viii))

The copy of the appealed claims contained in the Appendix to the brief is correct.

IX. Evidence Appendix (37 C.F.R § 41.37 (c)(1)(ix))

There is no such evidence.

X. Related Processing Appendix (37 C.F.R § 41.37 (c)(1)(x))

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this Examiner's Answer.

Respectfully submitted,

*/Xavier Szewai Wong/*  
Art Unit 2462  
18<sup>th</sup> June 2011

Conferees:

*/Seema S. Rao/*

Supervisory Patent Examiner, Art Unit 2462



Application/Control Number: 11/088,073  
Art Unit: 2462

Page 12

/Nittaya Juntima/

Primary Examiner, Art Unit 2462



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	07/18/2011	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 25 James Way Eatontown, NJ 07724			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2462	
			MAIL DATE	DELIVERY MODE
			07/18/2011	PAPER

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
11/088,073 (LCNT/126709)	23 March 2005	MALHOTRA, RICHA	R Malhotra 7

WALL & TONG, LLP/  
ALCATEL-LUCENT USA INC.  
25 James Way  
Eatontown, NJ 07724

**EXAMINER**

Xavier Wong

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2462

20110715

DATE MAILED:

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Commissioner for Patents

References for EVIDENCE RELIED UPON section added.

/Xavier Szewai Wong/  
Primary Examiner AU 2462  
15<sup>th</sup> July 2011





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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 11/088,073  
Filing Date: March 23, 2005  
Appellant(s): MALHOTRA, RICHA

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Eamon J. Wall  
For Appellant

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A statement of related appeals and interferences contained in the brief is

Application/Control Number: 11/088,073  
Art Unit: 2462

Page 3

correct.

III. Status of Claims (37 C.F.R § 41.37 (c)(1)(iii))

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***Grounds of Rejection***

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Application/Control Number: 11/088,073

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([0126]; fig. 1: congestion control part A13 of node A1); and

means for sending a congestion message from the network node (A1) at which the congestion condition is detected to one or more network nodes upstream of the congestion condition ([0130 & 0386]: wherein congestion notification sent back “upstream” to node A2 from A1; fig. 2: R11 → A13 → L105 → A14 → L104 → A2; transfer direction determination part A11);

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Art Unit: 2462

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Claim 2, applied to claim 1: Enomoto, in combination with Kwan, disclose the congestion condition is determined when a queue maximum occupancy is exceeded ([0227]).

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Application/Control Number: 11/088,073  
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Page 7

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Claim 12, applied to claim 11: Enomoto, modified by Kwan and Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned dropping packets associated with the *destination address*. Lee discloses destination address modification for congestion may be accompanied by partial packet discard, through destination address modification of the remaining cells forming part of a multiple cell packet to remove the destination address for the congested port; and, sending with destination address modification and optional partial packet discard if the queue size is above the threshold (abstract; col. 3 lines 20-30). It would have been obvious to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the destination address based packet dropping policy of Lee to avoid overflow buffer in transmission.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and Kawakami et al (US 2002/0136163 A1, Kawakami), applied to claims 11 and 13, and in further view of Bare (US 7,283,476 B2).

Claims 13 and 14, applied to claims 11 and 13: Enomoto, modified by Kawakami, disclose the claimed invention yet may not have *very expressively* mentioned the dropping of packets associated with *source and destination addresses* wherein when

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the *source end-node address is unknown*, the data flow is controlled by dropping those packets associated only with the destination address. Bare mentions both source and destination addresses are used to determine packet dropping conditions; and, that a packet with unknown source address is dropped directed to a specific destination MAC address (col. 13 lines 42-50 & 66-67). It would have been obvious to one of ordinary skill in the art at the time the invention was created to modify the packet dropping policy of Enomoto, modified by Kawakami, to use the source and destination addresses as taught by Bare to maintain load balancing by checking whether a packet from a certain source address were received within a predetermined time window.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (US 2003/0076781 A1, Enomoto) in view of Kwan et al (US 2006/0092840 A1, Kwan) and in further view of Agrawal et al (US 2003/0081546 A1, Agrawal).

Claims 15 and 16, applied to claims 1 and 15: Enomoto discloses the claimed invention yet not specifically about Service Level Agreement flow control and dropping policies. Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA), which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself ([0003]); wherein clearly flows are controlled by SLA and flows being *delayed* is interpreted as a condition for inability to drop since there are the options of “flows are delayed *or* dropped” specifically. It would have been obvious to one of ordinary skill in

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the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the flow control function of Enomoto to realize the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

VII. Argument (37 C.F.R § 41.37 (c)(1)(vii))

### ***Response to Arguments***

#### **Argument #A for claims 1, 2, 3 and 6:**

**Issues #1-4:** Appellant, in general, argues that Enomoto and Kwan failed to establish a prima facie case of obviousness of independent claim 1 because portions of Kwan cited in the Office Action (dated 15<sup>th</sup> February 2011) failed to show certain features of the independent claim 1. Appellant disagrees that Enomoto, in combination with Kwan, shows “a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition... address information of at least one end-node associated with the congestion condition.”

#### **Examiner’s response –**

The examiner first reminds the appellant that although the claims are interpreted in light of the specification, *limitations from the specification* are **not read into the claims**. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The examiner interprets that in **Enomoto** figure 1, for example, a congestion notification message is transferred from congestion control node A1 to congestion control node A2 through link R11 to notify the congestion control node A2 that

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congestion control node A1 has experienced a congestion at client end-node C1 [see paragraphs 0109 and 0113-0115]. Further, *in reference to* said link R11 and said congestion control node A1, said *congestion node A2* is “*Upstream*” node of said congestion node A1. Thus, this clearly reads on “a network node at which the congestion condition is detected (at A1) toward one or more network nodes *upstream* of the congestion condition (at A2).”

However, Enomoto *may not* have very explicitly/clearly mentioned “address information of at least one end-node associated with the congestion condition”, therefore, **Kwan** is brought in to cure this *assumed* deficiency. Kwan teaches in paragraph 0033 lines 4-6 “destination endpoint may need to send a Congestion Notification (CN) message to each source endpoint that is contributing to the congestion event”; and, paragraph 0037 lines 7-14 mention “the destination endpoint reads [the] source addresses of the marked data packets and notifies the associated source endpoint of its contribution to the congestion event. Upon receipt, of the congestion notification of the CN message, each source endpoint identified as contributing to the congestion may either reduce the transmission rate, pause, or interrupt the transmission of the data packets” (emphasis added). Therefore, in order for those *source endpoints that caused congestion to be identified*, their source addresses *must* be known for identification purposes.

Therefore, the rejection of claim 1 should be maintained.

**Arguments #B and #C (Issues II – IV)::**

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Appellant merely argues patentability because of the claims' dependence on claim 1, which is addressed above.

For the above reasons, it is believed that the rejections should be sustained by the Honorable Board.

VIII. Claims Appendix (37 C.F.R § 41.37 (c)(1)(viii))

The copy of the appealed claims contained in the Appendix to the brief is correct.

IX. Evidence Appendix (37 C.F.R § 41.37 (c)(1)(ix))

These are the references relied upon by the examiner::

US Patent Pub 2003/0076781 A1, Enomoto et al;  
US Patent Pub 2006/0092840 A1, Kwan et al;  
US Patent 6,148,005, Paul et al;  
US Patent Pub 2002/0136163 A1, Kawakami et al;  
US Patent 6,636,510 B1, Lee et al; and,  
US Patent Pub 2003/0081546 A1, Agrawal et al

X. Related Processing Appendix (37 C.F.R § 41.37 (c)(1)(x))

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this Examiner's Answer.

Respectfully submitted,

*/Xavier Szewai Wong/*  
Art Unit 2462  
18<sup>th</sup> June 2011

Application/Control Number: 11/088,073

Page 12

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Conferees:

/Seema S. Rao/

Supervisory Patent Examiner, Art Unit 2462

/Nittaya Juntima/

Primary Examiner, Art Unit 2462

Reply Brief  
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Page 1 of 6

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Inventor(s):</b>	Richa Malhotra	
<b>Case:</b>	R Malhotra 7 (ALU/126709)	
<b>Serial No.:</b>	11/088,073	<b>Group Art Unit:</b> 2462
<b>Filed:</b>	March 23, 2005	
<b>Examiner:</b>	Wong, Xavier S	<b>Confirmation #:</b> 7089
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK	

**MAIL STOP APPEAL BRIEF-PATENTS  
COMMISSIONER FOR PATENTS  
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ALEXANDRIA, VA 22313-1450**

**Dear Sir or Madam:**

**REPLY BRIEF**

Appellant submit this Reply Brief to the Board of Patent Appeals and Interferences in response to the Examiner's Answers, dated June 27, 2011 and July 18, 2011, in the Appeal of the above-identified application.

The Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 50-4802/ALU/126709.



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**Remarks**

Appellant's response to the Examiner's Answers is provided hereinbelow.

**Section 10 (Response to Arguments)**

In Section 10 (Response to Arguments) of the Examiner's Answers, the Examiner purports to provide answers to the various arguments made by the Appellant in the Appeal Brief filed for the above-identified application. Appellant addresses the Examiner's arguments hereinbelow.

**Enomoto**

In the Examiner's Answers, the Examiner discusses portions of Enomoto and concludes that the portions of Enomoto disclose "...a network node at which the congestion condition is detected (at A1) toward one or more network nodes upstream of the congestion condition (at A2)." (See Examiner's Answer, Pgs. 9 – 10). Appellant disagrees.

**First Point**

First, the Examiner states that "[t]he Examiner interprets that in Enomoto figure 1, for example, a congestion notification message is transferred from congestion control node A1 to congestion control node A2 through link R11 to notify the congestion control node A2 that congestion control node has experienced a congestion at client end-node C1 [see paragraphs 0109 and 0113-0115]." (See Examiner's Answer, Pgs. 9-10).

In response, Appellant submits that the Examiner's statement is not supported by the cited portions of Enomoto. Namely, none of the cited portions of Enomoto indicates that a congestion notification message is transferred from congestion control node A1 to congestion control node A2 through link R11. Rather, Paragraph [0113] states that "[t]he first congestion control node A1 sends congestion notification toward the second through the fourth congestion control nodes A2 to A4 laid on the ring-shaped network R1 via the second one-way link L102 or the fourth one-way link L104." (See Enomoto, Paragraph [0113], Emphasis added). Similarly, paragraph [0115] states that "[t]he first congestion control node A1 transfers the congestion notification received from the ring-shaped network R1 (the first and the third one-way links

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(L101 and L103) to adjacent nodes (the second congestion control node A2 or the fourth congestion control node A4) laid on the ring-shaped network R1 via the fourth or the second one-way links L102 or L104.” (See Enomoto, Paragraph [0115], Emphasis added). The cited portions of Enomoto do not state that a congestion notification message is transferred from congestion control node A1 to congestion control node A2 through link R11.

### Second Point

Second, the Examiner states that “...in reference to said link R11 and said congestion control node A1, said congestion node A2 is ‘Upstream’ node of said congestion node A1.” (See Examiner’s Answer, Pg. 10).

In response, it is noted that the first portion of Enomoto cited by the Examiner (namely, Paragraph [0109]) states that “[t]he first congestion control node A1 receives a frame from the first client group C1 through the two-way link L100 and transfers the frame on the ring-shaped network R1 via the second one-way link L102 or the fourth one-way link L104.” (See Enomoto, Paragraph [0109], Emphasis added). In other words, the cited portion of Enomoto clearly indicates that the direction of transmission is from congestion control node A1 toward congestion control node A2, such that congestion control node A1 is upstream of congestion control node A2. This clearly contradicts the Examiner’s assertion in the Examiner’s Answers that “...said congestion node A2 is ‘Upstream’ node of said congestion node A1.” (See Examiner’s Answer, Pg. 10).

### Third Point

As noted above, the Examiner discusses portions of Enomoto and concludes that the portions of Enomoto disclose “...’a network node at which the congestion condition is detected (at A1) toward one or more network nodes upstream of the congestion condition (at A2).” (See Examiner’s Answer, Pgs. 9 – 10). From the portions of Enomoto discussed hereinabove, however, it is clear that the cited portions of Enomoto indicate that (1) first congestion control node A1 transmits frames in a direction from congestion control node A1 toward congestion control node A2 via the second one-way link L102 or the fourth one-way link L104 such that congestion control node A1 is upstream of congestion control node A2 and (2) first congestion control node A1 sends a congestion notification toward the second through the fourth congestion

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control nodes A2 to A4 laid on the ring-shaped network R1 via the second one-way link L102 or the fourth one-way link L104. It is noted that no combination of use of second one-way link L102 and fourth one-way link L104 to transmit the frames and the congestion notification results in an arrangement in which a congestion message is sent from a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition.

### Conclusion

Thus, the Examiner's assertions regarding the cited portions of Enomoto are not supported by the cited portions of Enomoto and, further, the cited portions of Enomoto fail to teach or suggest features of Appellant's claims asserted by the Examiner to be disclosed.

Therefore, the rejection of Appellant's claims on this basis cannot be maintained.

### Kwan

In the Examiner's Answer, the Examiner discusses portions of Kwan and concludes that the portions of Kwan disclose "...address information of at least one end-node associated with the congestion condition" (See Examiner's Answer, Pg. 10). Appellant disagrees.

In response, Appellant submits that the cited portions of Kwan fail to teach or suggest a congestion message that includes address information of at least one end-node associated with the congestion condition where the congestion message is sent from a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition. Rather, the cited portions of Kwan merely discuss sending of a congestion notification message from a destination endpoint to a source endpoint and the associated response of the source endpoint after receiving the congestion notification message. For example, the first portion of Kwan cited in the Examiner's Answers (namely, Paragraph [0033, lines 4-6]) states that "[t]he destination endpoint 12 may need to send a Congestion Notification (CN) message to each source endpoint that is contributing to the congestion event." Similarly, for example, the second portion of Kwan cited in the Examiner's Answers (namely, Paragraph [0037, lines 7-14]) states that "the destination endpoint 12 reads the source addresses of the marked data packets and notifies the associated source endpoint 10 of its contribution to the congestion event" and, further, that "[u]pon receipt of the notification or the CN message each

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source endpoint 10 identified as contributing to the congestion may either reduce the transmission rate, pause, or interrupt the transmission of the data packets.” Thus, even assuming *arguendo* that cited portions of Kwan may be interpreted as disclosing “address information of at least one end-node associated with the congestion condition” as asserted by the Examiner, the cited portions of Kwan still would fail to teach or suggest “address information” in the same context as recited in Appellant’s claims, at least because the cited portions of Kwan fail to teach or suggest a congestion message that includes address information of at least one end-node associated with the congestion condition where the congestion message is sent from a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition. Furthermore, Appellant maintains that the cited portions of Enomoto also are deficient in this regard.

Thus, Appellant submits that the cited portions of Kwan, alone or in combination with the cited portions of Enomoto, fail to teach or suggest a congestion message that includes address information of at least one end-node associated with the congestion condition where the congestion message is sent from a network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition.

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U.S. S/N 11/088,073  
Page 6 of 6

### CONCLUSION

Appellant respectfully requests that the Board reverse the rejections and pass the claims to allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "E. Wall", is written over a horizontal line.

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**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	10576297
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall/Carol Wilson
<b>Filer Authorized By:</b>	Eamon J. Wall
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	22-JUL-2011
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	11:55:16
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Reply Brief Filed	ALU126709eReplyBrief_001.pdf	233801 02c561b3904426cc3e18431edeaf46989dc b644d	no	6

**Warnings:****Information:**

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	08/15/2011	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 25 James Way Eatontown, NJ 07724			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2462	
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			08/15/2011	PAPER

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The time period for reply, if any, is set in the attached communication.



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***Acknowledgement of Reply Brief***

The reply brief filed 22<sup>nd</sup> July 2011 has been entered and considered. The application has been forwarded to the Board of Patent Appeals and Interferences for decision on the appeal.

*/Xavier Szewai Wong/*  
Primary Examiner, Art Unit 2462  
10<sup>th</sup> August 2011



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WALL & TONG, LLP/  
ALCATEL-LUCENT USA INC.  
25 JAMES WAY  
EATONTOWN, NJ 07724

Appeal No: 2011-012052  
Application: 11/088,073  
Appellant: Richa Malhotra

## **Board of Patent Appeals and Interferences Docketing Notice**

Application 11/088,073 was received from the Technology Center at the Board on August 15, 2011 and has been assigned Appeal No: 2011-012052.

In all future communications regarding this appeal, please include both the application number and the appeal number.

The mailing address for the Board is:

**BOARD OF PATENT APPEALS AND INTERFERENCES  
UNITED STATES PATENT AND TRADEMARK OFFICE  
P.O. BOX 1450  
ALEXANDRIA, VIRGINIA 22313-1450**

The facsimile number of the Board is 571-273-0052. Because of the heightened security in the Washington D.C. area, facsimile communications are recommended. Telephone inquiries can be made by calling 571-272-9797 and referencing the appeal number listed above.

By order of the Board of Patent Appeals and Interferences.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	06/19/2014	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 25 James Way Eatontown, NJ 07724			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2413	
			MAIL DATE	DELIVERY MODE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* RICHA MALHOTRA

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Appeal 2011-012052  
Application 11/088,073  
Technology Center 2400

---

Before CAROLYN D. THOMAS, MICHAEL J. STRAUSS, and  
DANIEL N. FISHMAN, *Administrative Patent Judges*.

FISHMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) of finally rejected claims 1-8 and 10-18. Claim 9 is cancelled.

We have reviewed the Examiner's rejection in light of Appellant's arguments that the Examiner has erred. We concur with Appellant's contention (Appeal Brief 16-17) that the Examiner erred by failing to articulate a reason based on rational underpinnings for combining Enomoto (US 2003/0076781 A1) and Kwan (US 2006/0092840 A1).

The Examiner expresses a reason for combining the references stating:

Appeal 2011-012052  
Application 11/088,073

It would have been obvious to one of ordinary skill in the art at the time the invention was created *to learn address* of an end-node generating congestion notification as taught by Kwan to the congestion handling method of Enomoto for effective retransmission error recovery to recover lost packets based on the congestion state and quickly identify the root cause of a possible failure along a communication route and facilitate adjustment to traffic to ease the congestion.

Answer 4-5 (emphasis added). Initially, we observe the italicized phrase above does not appear in the present claims but rather appeared in the originally filed claims. The original claims were amended removing the italicized phrase. Appellant argues:

[I]t is unclear as to what is meant by “effective retransmission error recovery to recover lost packets based on the congestion state,” at least because it is unclear how lost packets would be recovered based on congestion state . . . Similarly, it also is unclear as to what is meant by “effective retransmission error recovery to . . . quickly identify the root cause of a possible failure along a communication route,” at least because, again, it is unclear how retransmission error recovery would identify a root cause of a failure . . . .

Appeal Brief 16-17. We agree that the Examiner’s reasoning is unclear and inconsistent. We find no teaching or suggestion in Enomoto, Kwan, or Appellant’s Specification that efficacy of the retransmission error recovery of lost packets is a problem to be addressed by the invention or the applied references. Neither do we find any indication that such effective retransmission aids in quickly identifying the root cause of congestion. While it may well be the case that the references can be properly combined, on the record before us, we find the Examiner has failed to express a reason based on rational underpinnings for the proposed combination.

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Application 11/088,073

Independent claims 17 and 18 include similar limitations and are rejected for essentially the same reasons. Accordingly, we will not sustain the Examiner's rejection of independent claims 1, 17, and 18 and the dependent claims (2-8 and 10-16). Appellant's contentions present additional issues. Because we are persuaded of error with regard to the identified issue, which is dispositive as to all claims, we do not reach these additional issues.

#### DECISION

For the above reasons, the Examiner's decision rejecting claims 1-8 and 10-18 is reversed.

REVERSED

tj



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46363	7590	03/09/2015	EXAMINER	
WALL & TONG, LLP/ ALCATEL-LUCENT USA INC. 25 James Way Eatontown, NJ 07724			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2413	
			MAIL DATE	DELIVERY MODE
			03/09/2015	PAPER

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**Office Action Summary****Application No.**  
11/088,073**Applicant(s)**  
MALHOTRA, RICHA**Examiner**  
Xavier Szewai Wong**Art Unit**  
2413**AIA (First Inventor to File)  
Status**  
No**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19<sup>th</sup> June 2014.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims\***

- 5) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.  
 5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-6 and 15-18 is/are rejected.
- 8) ☒ Claim(s) 7, 8 and 10-14 is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a) ☐ All b) ☐ Some\*\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 3) ☒ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 4) ☐ Other: \_\_\_\_\_

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1. The present application is being examined under the pre-AIA first to invent provisions.

In view of the patent board decision docketed on 19<sup>th</sup> June 2014, prosecution is hereby reopened. New grounds of rejection set forth below.

### ***Response to Arguments***

2. Applicant's arguments have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Please see **Hatta** and **Henderson** rejections below.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims **1**, **2**, **3**, **6**, **17** and **18** are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Hatta et al (US 6,418,119 B1, Hatta).

**Regarding claims 1 and 18**, Hatta shows apparatus and method for controlling data flow in a network (*abstract: prevent disability of a data transmission; fig. 1: network*) comprising:

means for detecting a congestion condition (*fig. 3: congestion test section 150 of multiplexer 14-2*) at a network node (*fig. 1: multiplexer 14-2*) in the network (*col. 9 lines 8-10: multiplexer 14-2 congestion test section 150 detects congestion*); and

means for sending a congestion message from the network node (*fig. 3: frame multiplexer / sender section 152*) at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition (*col. 9 lines 14-21: FECN /*

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*BECN for indicating congestion status in upstream and downstream; fig. 1: FR frames, which contains the congestion status information, are sent in both upstream and downstream directions);*

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition (*fig. 2A: User Information and Address; fig. 2B: FECN and BECN*) to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition (*col. 6 lines 53-60 and 62-65: CN (congestion controlling) bits for notifying congestion in the network... FR terminals have been notified of congestion occurrence and suppress sending frames, thereby, performing congestion control*).

**Regarding claim 17**, Hatta shows a non-transitory computer readable storage medium having stored thereon a program (*col. 8 lines 29-30: a readable/writable memory circuit such as a RAM; see also claim 8 for computer readable storage medium*) which, when executed by a computer (*fig. 3*), causes the computer to perform a method for controlling data flow in a network (*abstract: prevent disability of a data transmission; fig. 1: network*), the method comprising:

detecting a congestion condition at a network node in the network (*col. 9 lines 8-10: multiplexer 14-2 congestion test section 150 detects congestion*); and

sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition (*col. 9 lines 14-21: FECN / BECN for indicating congestion status in upstream and downstream; fig. 1: FR frames, which contains the congestion status information, are sent in both upstream and downstream directions*);

wherein said congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition (*col. 6 lines 53-60 and 62-65: CN (congestion controlling) bits for notifying congestion in the network... FR terminals have been notified of congestion occurrence and suppress sending frames, thereby, performing congestion control*).

Regarding claim 2, Hatta shows the method of claim 1, wherein:  
the congestion condition is determined when a queue maximum occupancy is exceeded (*col. 8 lines 45-50: the congestion test section 150 determines an occurrence of congestion if a data amount of user frames inputted from the user frame queue 148 exceeds a threshold value "th," which was previously calculated based on a transmission capacity "x" of the data transmission path 18 (committed transmission capacity of a virtual circuit) and the like*).

Regarding claim 3, Hatta shows the method of claim 1, wherein:  
the congestion condition is determined when data received by a network node exceeds an output link capability of the node (*col. 8 lines 57-62: frames are transmissible in a remaining portion "z" of the transmission capacity "x" (z=x-y; where y is a complementary portion of the transmission capacity required for transmitting all of LMI frames queued in the LMI frame*

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*queue 146) of the data transmission path).*

Regarding claim 6, Hatta shows the method of claim 1, wherein:  
the congestion message comprises an indication that a congestion condition exists (*col. 10 lines 55-63: FECN, BECN and CN bits*).

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### ***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 4 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Hatta et al (US 6,418,119 B1, Hatta) in view of Henderson et al (US 2004/0037276 A1, Henderson).

Regarding claim 4, Hatta shows the method of claim 1; Hatta does not very explicitly mention wherein:

the congestion condition is determined when a queue data drop rate exceeds a threshold level.

Henderson teaches feature of a congestion condition is determined when a queue data drop rate exceeds a threshold level ([0037] lines 8-11: Congestion avoidance algorithms like RED can be performed when packets are added to queues; [0038] lines 18-23: the average queue size is then compared to the minimum and maximum thresholds, packets are never dropped when the average queue size is below the minimum threshold, and packets are always dropped when the average queue size is above the maximum threshold. However, if the average queue size is between the minimum and maximum thresholds, the drop rate is proportional to the average queue size – therefore, drop rate of queue data cannot exceed a maximum threshold or else congestion will happen).

It would have been obvious to one of ordinary skill in the art when the invention was made to implement the congestion condition determination feature of Hatta to utilize a queue data drop rate threshold exceeding algorithm as taught by Henderson provide a high level of flexibility for creating queues and avoid congestion (Henderson, [0037] lines 10-11).

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7. Claim 5 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Hatta et al (US 6,418,119 B1, Hatta) in view of Henderson et al (US 2004/0037276 A1, Henderson), applied to claim 4, and in further view of Paul et al (US 6,148,005, Paul).

Regarding claim 5, Hatta, modified by Henderson, shows the method of claim 4; Hatta, modified by Henderson, does not very explicitly mention wherein: the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

Paul teaches function of when a packet loss (drop) rate goes above a certain level (threshold), a network node (e.g. receiver) moves into a congested state (*col. 8 lines 39-67; col. 10 lines 55-62*).

It would have been obvious to one of ordinary skill in the art at the time the invention was created to apply such congestion condition determination policies taught by Paul to the congestion buffer used amount measuring part of Hatta, modified by Henderson, for effective retransmission error recovery to recover lost packets based on the congestion state.

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8. Claims 15 and 16 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Hatta et al (US 6,418,119 B1, Hatta) in view of Agrawal et al (US 2003/0081546 A1, Agrawal).

Regarding claim 15, Hatta shows the method of claim 1; Hatta does not explicitly mention wherein said controlling is performed in accordance with a Service Level Agreement associated with said at least one flow to be controlled.

Agrawal teaches flows are given various priority levels depending upon the customer's Service Level Agreements (SLA) (*[0003] lines 9-10*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the well-known SLA to determine flow control policies as taught by Agrawal to the method of Hatta to realize the benefit of end-to-end bandwidth guarantees while maintaining per flow shaping and leads to minimum de-jittering delay at an end receiving unit.

Regarding claim 16, Hatta, modified by Agrawal, shows the method of claim 15, further comprising: receiving an indication of an inability to drop packets in accordance with the

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Service Level Agreement (*Agrawal, [0003] lines 9-13: the flows are given various priority levels depending upon the customer's Service Level Agreements, which determine whether the flows are delayed or dropped when there is congestion in the network or within the source node itself*).

### ***Allowable Subject Matter***

9. Claims 7, 8 and 10 – 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including *all* of the limitations of the base claim and *all* intervening claims.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Moore, US 6,463,035 B1: method and apparatus for initiating an upward signaling control channel in a fast packet network.

2. Kawakami et al, US 2002/0136163 A1: flow control apparatus formed of a network of switching hubs in a hierarchy configuration for performing data packet transfer within each of a plurality of respectively separate groups of terminals in which congestion can be judged for a terminal group based on a level of utilization of a port output buffer that is used only by that group, or based on a rate of flow of data from that group into a port output buffer which is used in common for all terminal groups, and congestion notification packets may be transmitted from a single port or from a plurality of ports of a switching hub, in accordance with the detected degree of congestion.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Szewai Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 11:30 am - 9:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Un C. Cho can be reached on 571.272.7919. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571.272.1000.

*/Xavier Szewai Wong/*

Primary Examiner, Art Unit 2413

17<sup>th</sup> September 2014

/TIMOTHY P. CALLAHAN/

Director, Technology Center 2400

<b><i>Examiner-Initiated Interview Summary</i></b>	<b>Application No.</b> 11/088,073	<b>Applicant(s)</b> MALHOTRA, RICHA	
	<b>Examiner</b> Xavier Szewai Wong	<b>Art Unit</b> 2413	

All participants (applicant, applicant's representative, PTO personnel):

(1) Xavier Wong. (3) \_\_\_\_.

(2) Michael Bentley. (4) \_\_\_\_.

Date of Interview: 18 September 2014.

Type: ☒ Telephonic ☐ Video Conference  
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☐ No.  
If Yes, brief description: \_\_\_\_.

Issues Discussed ☐ 101 ☐ 112 ☐ 102 ☐ 103 ☒ Others  
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1, 17 and 18.

Identification of prior art discussed: n/a.

**Substance of Interview**  
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

The examiner proposed possible amendments to independent claims 1, 17 and 18 to render the application allowable to the applicant's representative on 10<sup>th</sup> September 2014. The applicant's representative consulted the applicant but the applicant indicated that the proposal is not acceptable on 18<sup>th</sup> September 2014. Therefore, the examiner is hereby re-opening prosecution for this application.

**Applicant recordation instructions:** It is not necessary for applicant to provide a separate record of the substance of interview.

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

	/Xavier Szewai Wong/ Primary Examiner, Art Unit 2413
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<b>Notice of References Cited</b>	Application/Control No. 11/088,073		Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong		Art Unit 2413	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,418,119 B1	07-2002	Hatta et al.	370/235
*	B	US-6,463,035 B1	10-2002	Moore, Gregory D.	370/236
*	C	US-6,424,620 B1	07-2002	Nishihara, Motoo	370/229
*	D	US-6,771,601 B1	08-2004	Aydemir et al.	370/231
*	E	US-6,148,005 A	11-2000	Paul et al.	370/469
*	F	US-2003/0081546 A1	05-2003	Agrawal et al.	370/229
*	G	US-2004/0037276 A1	02-2004	Henderson et al.	370/371
*	H	US-2002/0136163 A1	09-2002	Kawakami et al.	370/229
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	124652	(MOTOROLA AT\$1T American).AS. AND (@RLAD < "20050323" @AD < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/10 14:43
L2	3	L1 AND congest\$5 same (MAC near3 address)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/10 14:44
L3	0	L1 AND congest\$5 same MAC same (F\$1CN B\$1CN)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/10 14:45

EAST Search History (I nterference)

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2014.09.03.wsp

**EAST Search History****EAST Search History (Prior Art)**


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L1	9233	370/229,230,230.1,231,235.ccls. and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 18:47
L2	11	L1 and (congest\$3 SAME (end adj node end edge border) SAME ((media adj access adj control MAC) adj address))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 18:47
L3	11	L1 and congest\$3 with (end adj node end) with address	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 18:49
L4	2	L1 and congest\$3 with node with address with (uplink upstream)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 18:54
L5	3	L1 and congest\$3 with address with (uplink upstream)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 18:54
L6	11	L1 and congest\$3 SAME address SAME (F\$1CN B\$1CN back adj pressure)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 18:58
L7	16	(L1 (370/236.CCLS. AND (@rlad < "20050323" @ad < "20050323"))) and congest\$3 SAME address SAME (F\$1CN B\$1CN back adj pressure) AND (queue buffer FIFO)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 19:02
L8	13	(L1 (370/236.CCLS. AND (@rlad < "20050323" @ad < "20050323"))) and congest\$3 SAME address SAME (F\$1CN B\$1CN back adj pressure) NOT ATM.AB.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 19:43
L9	0	(L1 (370/236.CCLS. AND (@rlad < "20050323" @ad < "20050323"))) and congest\$3 SAME ((IP MAC) adj address) SAME (F\$1CN B\$1CN back adj pressure) NOT ATM.AB.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 19:44

**EAST Search History (Interference)**

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<b>Search Notes</b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2413

## CPC- SEARCHED

Symbol	Date	Examiner

## CPC COMBINATION SETS - SEARCHED

Symbol	Date	Examiner

## US CLASSIFICATION SEARCHED

Class	Subclass	Date	Examiner
370	229- 231,235,236,236.1,236.2,253,312,349,389,471,395.71	2009.03.01	/XSW/
updated	above	05.06.2010	/XSW/
updated	above	09.30.2010	/XSW/
updated	above	2014.09.15	/XSW/


## SEARCH NOTES

Search Notes	Date	Examiner
EAST image, class and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	03.01.09	/XSW/
updated searches above	05.06.2010	/XSW/
Updated Searches Above	2011.02.14	/XSW/
Consulted TQAS Chau Nguyen regarding patentability and prior art searches	2014.09.10	/XSW/
Updated Searches Above	2014.09.10	/XSW/
Updated EAST Searches	2014.09.26	/XSW/

## INTERFERENCE SEARCH

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2413

✓	<b>Rejected</b>	-	<b>Cancelled</b>	N	<b>Non-Elected</b>	A	<b>Appeal</b>
=	<b>Allowed</b>	÷	<b>Restricted</b>	I	<b>Interference</b>	O	<b>Objected</b>

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	10/26/2007	04/01/2008	08/08/2008	03/01/2009	09/17/2014			
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	2	✓	✓	✓	✓	✓			
	3	✓	✓	✓	✓	✓			
	4	✓	✓	✓	✓	✓			
	5	✓	✓	✓	✓	✓			
	6	✓	✓	✓	✓	✓			
	7	✓	✓	✓	✓	○			
	8	✓	✓	✓	✓	○			
	9	✓	-	-	-	-			
	10	✓	✓	✓	✓	○			
	11	✓	✓	✓	✓	○			
	12	✓	✓	✓	✓	○			
	13	✓	✓	✓	✓	○			
	14	✓	✓	✓	✓	○			
	15	✓	✓	✓	✓	✓			
	16	✓	✓	✓	✓	✓			
	17	✓	✓	✓	✓	✓			
	18	✓	✓	✓	✓	✓			

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	9233	370/229,230,230.1,231,235.ccls. and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 18:47
L17	3	(L1 (370/236.CCLS. AND (@rlad < "20050323" @ad < "20050323"))) and congest\$3 with (MAC adj address) with destination	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 22:13

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**EAST Search History****EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L8	13	(L1 (370/236.CCLS. AND (@rlad < "20050323" @ad < "20050323"))) and congest\$3 SAME address SAME (F\$1CN B\$1CN back adj pressure) NOT ATM.AB.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 19:43
L9	4	(L1 (370/236.CCLS. AND (@rlad < "20050323" @ad < "20050323"))) and congest\$3 SAME address SAME (F\$1CN B\$1CN back adj pressure) AND MAC NOT ATM.AB.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 19:48
L10	0	(L1 (370/236.CCLS. AND (@rlad < "20050323" @ad < "20050323"))) and congest\$3 SAME address SAME (F\$1CN B\$1CN back adj pressure) AND MAC AND upstream NOT ATM.AB.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/18 19:51

**EAST Search History (Interference)**

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EAST Search History

EAST Search History (Prior Art)

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L1	137464	"370".clas. and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 04:18
L2	46	L1 AND MAC adj address with congest\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 04:18

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EAST Search History

EAST Search History (Prior Art)

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L4	7086	370/229,235,236.CCLS. AND (@RLAD < "20050323" @AD < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/09 22:35
L5	3	L4 AND congest\$5 same (MAC adj address) same ("backward explicit congestion notification" "forward explicit congestion notification" BECN FECN back\$1pressure back adj pressure)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/09 22:38
L6	0	L4 AND (MAC near3 address) same (F\$1CN B\$1CN forward adj2 congest\$3 backward adj2 congest\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/09 22:41

EAST Search History (Interference)

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2014.09.03.wsp

**EAST Search History****EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	136999	"370".clas. and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 01:30
L6	54	L5 AND queue with drop\$4 with rate with congest\$6	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 01:36
L7	10	L5 AND queue with drop\$4 with rate with congest\$6 with threshold	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 01:42
L9	14	L5 AND queue with drop\$4 near rate with congest\$6	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 01:55
L10	16	L5 AND queue near2 drop\$4 near rate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:00
L11	13	L5 AND queue near2 drop\$4 near rate and congest\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:03
L12	2	L5 AND (queue near2 drop\$4 near rate) same congest\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:03
L13	2	L5 AND (queue near2 drop\$4 near rate) same congest\$3 and (queue near2 drop\$4 near rate)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:04
L14	2	L5 AND (queue near2 (discard\$3 drop\$4) near rate) same congest\$3 and (queue near2 drop\$4 near rate)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:06
L15	2	(queue near2 (discard\$3 drop\$4) near rate) same congest\$3 AND (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:10
L16	41	(queue with (discard\$3 drop\$4) near rate) same congest\$3 AND (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:18
L17	1	(queue with (discard\$3 drop\$4) near rate) same congest\$3 same threshold AND (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:19

L18	18	(queue with (discard\$3 drop\$4) near rate) with congest\$3 AND (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:21
L19	2	((fifo buffer) near2 (discard\$3 drop\$4) near rate) same congest\$3 AND (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:22
L20	21	((FIFO buffer) with (discard\$3 drop\$4) near rate) with congest\$3 AND (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 02:25

EAST Search History (Interference)

<This search history is empty>

9/ 27/ 2014 3:35:35 AM

**EAST Search History****EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"6148005".pn. and threshold	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 03:38
L2	137492	"370".clas. and (@rlad < "20050323" @ad < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 03:39
L3	14	L2 AND (queue buffer FIFO) near3 ((discard\$3 dump\$3 drop\$6) near rate) with threshold	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 03:41
L4	12	L2 AND (queue buffer FIFO) near3 ((discard\$3 dump\$3 drop\$6) near rate) with threshold and packet adj drop\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 03:44
L5	5	L2 AND (queue buffer FIFO) near3 ((discard\$3 dump\$3 drop\$6) near rate) with threshold and packet adj drop\$3 AND congest\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/09/27 03:52

**EAST Search History (Interference)**

&lt;This search history is empty&gt;

**9/ 27/ 2014 4:06:53 AM**

Serial No. 11/088,073

Page 1 of 11

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Serial No.:</b>	11/088,073	<b>Filed:</b>	March 23, 2005
<b>Case:</b>	R Malhotra 7 (LCNT/126709)	<b>Inventor(s):</b>	Richa Malhotra
<b>Examiner:</b>	Wong, Xavier S	<b>Group Art Unit:</b>	2413
<b>Conf. No.:</b>	7089		
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		

**MAIL STOP AMENDMENT  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**RESPONSE TO OFFICE ACTION**

In response to the non-final Office Action mailed March 9, 2015, please reconsider the above-identified patent application as follows.

Applicant does not believe that an extension of time is required for this response to be considered timely. In the event that an extension of time is required for this response to be considered timely, and a petition therefor does not otherwise accompany this amendment, Applicant hereby petitions for any necessary extension of time.

Applicant submits herein payment of fees for four additional claims (\$320) including one additional independent claim (\$420). Applicant does not believe that any additional fees are due in connection with this response. In the event that the Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 50-4802/**ALU/126709**.

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**IN THE CLAIMS:**

Please amend the claims as follows:

1. (cancelled)
2. (currently amended) The method of claim [[1]]Z, wherein:  
the congestion condition is determined when a queue maximum occupancy is exceeded.
3. (currently amended) The method of claim [[1]]Z, wherein:  
the congestion condition is determined when data received by [[a]]the network node exceeds an output link capability of the network node.
4. (currently amended) The method of claim [[1]]Z, wherein:  
the congestion condition is determined when a queue data drop rate exceeds a threshold level.
5. (original) The method of claim 4, wherein:  
the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.
6. (cancelled)
7. (currently amended) ~~The method of claim 6, wherein:~~ A method for controlling data flow in a network, comprising:  
detecting a congestion condition at a network node in the network; and  
sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;  
wherein the congestion message comprises an indication that a congestion condition exists;

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wherein the congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition;

wherein the congestion message comprises a MAC address associated with a ~~traffic~~ data flow to be restricted such that the congestion may be reduced or the congestion message comprises a MAC address pair associated with a data flow to be restricted such that the congestion may be reduced.

8. (cancelled)

9. (cancelled)

10. (currently amended) ~~The method of claim 1,~~ A method for controlling data flow in a network, comprising:

detecting a congestion condition at a network node in the network; and

sending a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein the congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition, wherein the address information is the MAC address of a destination end-node.

11. (currently amended) The method of claim [[8]]Z, wherein the MAC address pair is [[the]]a source address and a destination address of a data flow contributing to the congestion condition.

12. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.



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13. (previously presented) The method of claim 11, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.

14. (previously presented) The method of claim 13, wherein:

in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

15. (currently amended) The method of claim ~~[[1]]~~7, wherein ~~[[said]]~~the controlling is performed in accordance with a Service Level Agreement associated with ~~[[said]]~~the at least one data flow to be controlled.

16. (previously presented) The method of claim 15, further comprising:

receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

17. (cancelled)

18. (cancelled)

19. (new) The method of claim 10, wherein:

the congestion condition is determined when a queue maximum occupancy is exceeded.

20. (new) The method of claim 10, wherein:

the congestion condition is determined when data received by the network node exceeds an output link capability of the network node.

21. (new) The method of claim 10, wherein:

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the congestion condition is determined when a queue data drop rate exceeds a threshold level.

22. (new) The method of claim 21, wherein:

the threshold level is determined with respect to at least one of an amount of data dropped, an amount of data dropped over time and a number of data drops over time.

23. (new) The method of claim 10, wherein the MAC address pair is a source address and a destination address of a data flow contributing to the congestion condition.

24. (new) The method of claim 23, wherein the data flow is controlled by dropping at least a portion of those packets associated with the destination address.

25. (new) The method of claim 23, wherein the data flow is controlled by dropping at least a portion of those packets associated with the source and destination addresses.

26. (new) The method of claim 25, wherein:

in response to the source address end-node being unknown, the data flow is controlled by dropping at least a portion of those packets associated with only the destination address.

27. (new) The method of claim 10, wherein the controlling is performed in accordance with a Service Level Agreement associated with the at least one data flow to be controlled.

28. (new) The method of claim 27, further comprising:

receiving an indication of an inability to drop packets in accordance with the Service Level Agreement.

29. (new) An apparatus configured for controlling data flow in a network, the apparatus comprising:

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a processor and a memory communicatively connected to the processor, the processor configured to:

detect a congestion condition at a network node in the network; and

send a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein the congestion message comprises an indication that a congestion condition exists;

wherein the congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition;

wherein the congestion message comprises a MAC address associated with a data flow to be restricted such that the congestion may be reduced or the congestion message comprises a MAC address pair associated with a data flow to be restricted such that the congestion may be reduced.

30. (new) An apparatus configured for controlling data flow in a network, the apparatus comprising:

a processor and a memory communicatively connected to the processor, the processor configured to:

detect a congestion condition at a network node in the network; and

send a congestion message from the network node at which the congestion condition is detected toward one or more network nodes upstream of the congestion condition;

wherein the congestion message comprises address information of at least one end-node associated with the congestion condition to enable thereby the control of at least one data flow in a manner tending to reduce the congestion condition, wherein the address information is the MAC address of a destination end-node.

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**Remarks**

Claims 1, 2, 3, 6, 17, and 18 are rejected under 35 U.S.C. 102 as being unpatentable over U.S. Patent No. 6,418,119 to Hatta et al. (hereinafter Hatta). Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatta in view of U.S. Patent Application Publication No. 2004/0037276 to Henderson et al (hereinafter Henderson). Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatta in view of Henderson and in further view of U.S. Patent No. 6,148,005 to Paul et al. (hereinafter Paul). Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatta in view of U.S. Patent Application Publication No. 2003/0081546 to Agrawal et al (hereinafter Agrawal). Claims 7, 8, and 10 - 14 are indicated as being allowable, but are objected to as being dependent upon a rejected base claim.

Applicant submits that each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Applicant submits that any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Applicant submits that, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent

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form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

### **Claim Amendments**

Applicant has herein amended the claims to accept the allowable subject matter indicated in the Office Action.

Applicant has herein amended dependent claim 7, which is indicated as being allowable, to rewrite the claim in independent form. It is noted that amended claim 7 includes the features of claims 6 and 1 from which it depends. It is further noted that claim 7 also includes the feature of dependent claim 8, which also depends from claim 1 via claim 6 and is also indicated as being allowable. Applicant has herein cancelled claim 8. It is noted that the features of claim 7 and 8 are recited in claim 7 in the alternative so as to provide coverage for the embodiments of claims 7 and 8 which, again, were indicated as being allowable.

Applicant has herein amended claims 2 – 4, 11, and 15 to depend from newly independent claim 7.

Applicant has herein added new claims 19 – 28 which depend from newly independent claim 10 and which correspond in scope, respectively, to claims 2 – 5 and 11 – 16 which depend from newly independent claim 7.

Applicant has herein added new claims 29 and 30 which correspond in scope to allowable claims 7 and 10, respectively.

Applicant submits that no new matter has been entered by the amendments made herein.

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Applicant has herein cancelled claims 1, 6, 8 – 9, and 17 – 18. Applicant reserves the right to file one or more continuation or divisional applications to pursue the subject matter of any of the cancelled claims.

**Rejection Under 35 U.S.C. 103(a)**

**Claims 1, 2, 3, 6, 17, and 18**

Claims 1, 2, 3, 6, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatta. The rejection is traversed.

Applicant has herein cancelled claims 1, 6, 17, and 18, and has herein amended claims 2 and 3 to depend from newly independent claim 7 which was indicated as being allowable. Thus, the rejection of these claims is moot.

Therefore, Applicant respectfully requests that the rejection be withdrawn.

**Claims 4, 5, 15, and 16**

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatta and Henderson. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatta, Henderson, and Paul. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatta and Agrawal. The rejections are traversed.

Applicant has herein amended claims 4, 5, 15, and 16 to depend from newly independent claim 7. Thus, the rejection of these claims is moot.

Therefore, Applicant respectfully requests that the rejection be withdrawn.

**Allowable Subject Matter**

Claims 7, 8, and 10 - 14 are objected to as being dependent upon a rejected base claim. Applicant has herein amended dependent claim 7, which is indicated as being allowable, to rewrite the claim in independent form. It is noted that amended claim 7 includes the features of claims 6 and 1 from which it depends. It is further noted that claim 7 also includes the feature of dependent claim 8, which also depends from claim 1 via claim 6 and is also indicated as being allowable. Applicant has herein cancelled claim 8. It is noted that the features of claim 7 and 8 are recited in claim 7 in the

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alternative so as to provide coverage for the embodiments of claims 7 and 8 which, again, were indicated as being allowable. Applicant has herein amended claim 11 to depend from newly independent claim 7.

Therefore, Applicant respectfully requests that the objection be withdrawn.

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**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Michael Bentley at (732) 542-2280 x124 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: 06-05-2015

/Michael S. Bentley/  
Michael S. Bentley  
Registration No. 52,613  
Attorney for Applicant

WALL & TONG, LLP  
25 James Way  
Eatontown, New Jersey 07724  
Telephone: 732-542-2280  
Facsimile: 732-542-2283



## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11088073			
<b>Filing Date:</b>	23-Mar-2005			
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network			
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra			
<b>Filer:</b>	Eamon J. Wall			
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709)			
Filed as Large Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
Claims in Excess of 20	1202	4	80	320
Independent claims in excess of 3	1201	1	420	420
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				740

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	22554416
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Eamon J. Wall
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709)
<b>Receipt Date:</b>	05-JUN-2015
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	17:15:41
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$740
RAM confirmation Number	4028
Deposit Account	504802
Authorized User	BENTLEY, MICHAEL

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		126709-RESPONSE-nfoa-FILED-6-5-2015.pdf	100636 99f96c203bd13aef66f14323b82ad0ce776d566b	yes	11

**Multipart Description/PDF files in .zip description**

Document Description	Start	End
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	6
Applicant Arguments/Remarks Made in an Amendment	7	11

**Warnings:****Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	31814 a5b4cefcce5d5cb424849102fbc4dc61ef4212b1	no	2
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**Warnings:****Information:****Total Files Size (in bytes):** 132450

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/088,073</b>		Filing Date <b>03/23/2005</b>		<input type="checkbox"/> To be Mailed		
ENTITY: <input checked="" type="checkbox"/> LARGE <input type="checkbox"/> SMALL <input type="checkbox"/> MICRO											
<b>APPLICATION AS FILED – PART I</b>											
(Column 1)			(Column 2)								
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A					
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A		N/A		N/A					
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A					
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =		*		X \$ =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		X \$ =					
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL					
<b>APPLICATION AS AMENDED – PART II</b>											
(Column 1)			(Column 2)			(Column 3)					
<b>AMENDMENT</b>	<b>06/05/2015</b>		CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA			
	Total (37 CFR 1.16(i))		* 24		Minus	** 20		= 4			
	Independent (37 CFR 1.16(h))		* 4		Minus	*** 3		= 1			
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
						TOTAL ADD'L FEE		<b>740</b>			
(Column 1)			(Column 2)			(Column 3)					
<b>AMENDMENT</b>			CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA			
	Total (37 CFR 1.16(i))		*		Minus	**		=			
	Independent (37 CFR 1.16(h))		*		Minus	***		=			
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
						TOTAL ADD'L FEE					
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>											

LIE  
/eugenia v. hardy/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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## NOTICE OF ALLOWANCE AND FEE(S) DUE

46363 7590 07/06/2015  
 WALL & TONG, LLC/  
 ALCATEL-LUCENT USA INC.  
 25 James Way  
 Eatontown, NJ 07724

EXAMINER

WONG, XAVIER S

ART UNIT

PAPER NUMBER

2413

DATE MAILED: 07/06/2015

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/088,073

03/23/2005

Richa Malhotra

R Malhotra 7  
(LCNT/126709)

7089

TITLE OF INVENTION: Method and apparatus for flow control of data in a network

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	10/06/2015

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

**HOW TO REPLY TO THIS NOTICE:**

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
**or Fax** **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

46363 7590 07/06/2015  
**WALL & TONG, LLC/**  
**ALCATEL-LUCENT USA INC.**  
**25 James Way**  
**Eatontown, NJ 07724**

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089

TITLE OF INVENTION: Method and apparatus for flow control of data in a network

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	10/06/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
WONG, XAVIER S	2413	370-230100

<b>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</b> <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. <b>Use of a Customer Number is required.</b>	<b>2. For printing on the patent front page, list</b> (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____ (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____ 3 _____
---	---

**3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)**

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

**4a. The following fee(s) are submitted:**

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

**4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)**

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

**5. Change in Entity Status (from status indicated above)**

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29  
☐ Applicant asserting small entity status. See 37 CFR 1.27  
☐ Applicant changing to regular undiscounted fee status.

**NOTE:** Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

**NOTE:** If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

**NOTE:** Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

**NOTE:** This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089
46363	7590	07/06/2015	EXAMINER	
WALL & TONG, LLC/ ALCATEL-LUCENT USA INC. 25 James Way Eatontown, NJ 07724			WONG, XAVIER S	
			ART UNIT	PAPER NUMBER
			2413	

DATE MAILED: 07/06/2015

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
 (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.



## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.** Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

### Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

<b>Notice of Allowability</b>	<b>Application No.</b> 11/088,073	<b>Applicant(s)</b> MALHOTRA, RICHA	
	<b>Examiner</b> Xavier Szewai Wong	<b>Art Unit</b> 2413	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5<sup>th</sup> June 2015.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 2-5,7,10-16 and 19-30 renumbered as 2-5,1,12,6-11 and 13-24. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a) ☐ All    b) ☐ Some    \*c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has **THREE MONTHS FROM THE "MAILING DATE"** of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

<ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____</li> <li>3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</li> <li>4. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____</li> </ol>	<ol style="list-style-type: none"> <li>5. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>7. <input type="checkbox"/> Other _____</li> </ol>
--	---

	/Xavier Szewai Wong/ Primary Examiner, Art Unit 2413
--	---

Application/Control Number: 11/088,073

Page 2

Art Unit: 2413

1. The present application is being examined under the pre-AIA first to invent provisions.

***Examiner's Comment***

The amendments that were filed on 5<sup>th</sup> June 2015 are entered.

***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
3. 1. Kawakami et al, US 2002/0136163 A1: In flow control apparatus formed of a network of switching hubs in a hierarchy configuration for performing data packet transfer within each of a plurality of respectively separate groups of terminals, based on use of group identifiers contained in the data packets, occurrence of congestion of the output section of a port of a switching hub is judged respectively separately for each of the terminal groups, and one or more congestion notification packets for effecting a pause in data packet transmission are generated and transmitted from that switching hub, directed only to one or more terminals of a group relating to the congestion.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Szewai Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 11:30 am - 9:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Un C. Cho can be reached on 571.272.7919. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571.272.1000.

/Xavier Szewai Wong/  
Primary Examiner, Art Unit 2413  
1<sup>st</sup> July 2015

Application/Control Number: 11/088,073  
Art Unit: 2413

Page 3

<b>Notice of References Cited</b>	Application/Control No. 11/088,073		Applicant(s)/Patent Under Reexamination MALHOTRA, RICHA	
	Examiner Xavier Szewai Wong		Art Unit 2413	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0136163 A1	09-2002	Kawakami et al.	370/229
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>Search Notes</b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2413

## CPC- SEARCHED

Symbol	Date	Examiner
H04L47/10	2015.06.30	/XSW/
H04L47/11	2015.06.30	/XSW/
H04L47/32	2015.07.01	/XSW/

## CPC COMBINATION SETS - SEARCHED

Symbol	Date	Examiner

## US CLASSIFICATION SEARCHED

Class	Subclass	Date	Examiner
370	229- 231,235,236,236.1,236.2,253,312,349,389,471,395.71	2009.03.01	/XSW/
updated	above	05.06.2010	/XSW/
updated	above	09.30.2010	/XSW/
updated	above	2014.09.15	/XSW/

## SEARCH NOTES


Search Notes	Date	Examiner
EAST image, class and keyword search in USPAT, US-PGPUB, DERWENT, EPO, JPO, and IBM_TDB (please see search history)	03.01.09	/XSW/
updated searches above	05.06.2010	/XSW/
Updated Searches Above	2011.02.14	/XSW/
Consulted TQAS Chau Nguyen regarding patentability and prior art searches	2014.09.10	/XSW/
Updated Searches Above	2014.09.10	/XSW/
Updated EAST Searches	2014.09.26	/XSW/
Updated Searches Above	2015.07.01	/XSW/

## INTERFERENCE SEARCH

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US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
See	Above	2015.07.01	/XSW/

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<b>Issue Classification</b> 	<b>Application/Control No.</b> 11088073	<b>Applicant(s)/Patent Under Reexamination</b> MALHOTRA, RICHA
	<b>Examiner</b> Xavier Szewai Wong	<b>Art Unit</b> 2413

CPC						
Symbol					Type	Version
H04L		47	/	10	F	2013-01-01
H04L		47	/	11	I	2013-01-01
H04L		47	/	17	I	2013-01-01
H04L		47	/	263	I	2013-01-01
H04L		47	/	32	I	2013-01-01
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CPC Combination Sets				
Symbol	Type	Set	Ranking	Version


		<b>Total Claims Allowed:</b>	
		24	
(Assistant Examiner)	(Date)	O.G. Print Claim(s)	O.G. Print Figure
/Xavier Szewai Wong/ Primary Examiner, Art Unit 2413	2015.07.01	23 (Final)	3
(Primary Examiner)	(Date)		



<b>Issue Classification</b> 	<b>Application/Control No.</b> 11088073	<b>Applicant(s)/Patent Under Reexamination</b> MALHOTRA, RICHA
	<b>Examiner</b> Xavier Szewai Wong	<b>Art Unit</b> 2413

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION												
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED							
						H	0	4	L	47 / 10								
CROSS REFERENCE(S)						H	0	4	L	47 / 32								
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																	
											</							

		<b>Total Claims Allowed:</b>	
		24	
(Assistant Examiner) /Xavier Szewai Wong/ Primary Examiner, Art Unit 2413	(Date) 2015.07.01	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	23 (Final)	3

<b>Issue Classification</b> 	<b>Application/Control No.</b> 11088073	<b>Applicant(s)/Patent Under Reexamination</b> MALHOTRA, RICHA
	<b>Examiner</b> Xavier Szewai Wong	<b>Art Unit</b> 2413

<input type="checkbox"/> <b>Claims renumbered in the same order as presented by applicant</b>								<input type="checkbox"/> <b>CPA</b>		<input type="checkbox"/> <b>T.D.</b>		<input type="checkbox"/> <b>R.1.47</b>			
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
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10	15														
11	16														

		<b>Total Claims Allowed:</b>	
		24	
(Assistant Examiner) /Xavier Szewai Wong/ Primary Examiner, Art Unit 2413 (Primary Examiner)	(Date) 2015.07.01 (Date)	O.G. Print Claim(s)	O.G. Print Figure
		23 (Final)	3

**EAST Search History****EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L9	7	(congestion and (upstream uplink) and (MAC adj address)).CLM.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:33

**EAST Search History (Interference)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L8	19992	Malhotra.in. (Alcatel Lucent).as.	USPAT; UPAD	OR	ON	2015/06/30 17:33
L10	14	L8 and (congest\$3 and (upstream uplink)).CLM.	USPAT; UPAD	OR	ON	2015/06/30 17:35

**6/ 30/ 2015 5:35:43 PM****C:\Users\xwong\Desktop\Malhotra\Malhotra\_09.30.2010.wsp**

**EAST Search History****EAST Search History (Prior Art)**


Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	83075	(Malhotra).in. (Alcatel Lucent).as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:02
L2	1	L1 and (congestion and (upstream uplink) and (MAC adj address)).CLM.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:02
L3	9319	(H04L47/10 H04L47/11 H04L47/32).CPC. AND (@RLAD < "20050323" @AD < "20050323")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:13
L4	40	L3 AND (end\$1node terminal node root edge border) with (ID identifier identification) with congest\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:13
L5	7	L4 AND (MAC adj address) SAME congest\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:13
L6	8	L3 AND (end\$1node terminal node root edge border) with (ID identifier identification) with congest\$5 WITH (flow stream train)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:17
L7	2	L6 AND (MAC adj address) SAME congest\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:18
L9	7	(congestion and (upstream uplink) and (MAC adj address)).CLM.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/30 17:33

**EAST Search History (Interference)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L8	19992	Malhotra.in. (Alcatel Lucent).as.	USPAT; UPAD	OR	ON	2015/06/30 17:33
L10	0	L8 and (congestion and (upstream uplink) and (MAC adj address)).CLM.	USPAT; UPAD	OR	ON	2015/06/30 17:33

**6/30/2015 5:34:37 PM**

**C:\Users\xwong\Desktop\Malhotra\Malhotra\_09.30.2010.wsp**

<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  11088073	<b>Applicant(s)/Patent Under Reexamination</b>  MALHOTRA, RICHA
	<b>Examiner</b>  Xavier Szewai Wong	<b>Art Unit</b>  2413

✓	<b>Rejected</b>	-	<b>Cancelled</b>	N	<b>Non-Elected</b>	A	<b>Appeal</b>
=	<b>Allowed</b>	÷	<b>Restricted</b>	I	<b>Interference</b>	O	<b>Objected</b>

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	10/26/2007	04/01/2008	08/08/2008	03/01/2009	09/17/2014	07/01/2015		
	1	✓	✓	✓	✓	✓	-		
2	2	✓	✓	✓	✓	✓	=		
3	3	✓	✓	✓	✓	✓	=		
4	4	✓	✓	✓	✓	✓	=		
5	5	✓	✓	✓	✓	✓	=		
	6	✓	✓	✓	✓	✓	-		
1	7	✓	✓	✓	✓	O	=		
	8	✓	✓	✓	✓	O	-		
	9	✓	-	-	-	-	-		
12	10	✓	✓	✓	✓	O	=		
6	11	✓	✓	✓	✓	O	=		
7	12	✓	✓	✓	✓	O	=		
8	13	✓	✓	✓	✓	O	=		
9	14	✓	✓	✓	✓	O	=		
10	15	✓	✓	✓	✓	✓	=		
11	16	✓	✓	✓	✓	✓	=		
	17	✓	✓	✓	✓	✓	-		
	18	✓	✓	✓	✓	✓	-		
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21	27						=		
22	28						=		
23	29						=		
24	30						=		

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Patent Application**

<b>Serial No.:</b>	11/088,073	<b>Filed:</b>	March 23, 2005
<b>Case:</b>	R Malhotra 7 (LCNT/126709)	<b>Inventor(s):</b>	Richa Malhotra
<b>Examiner:</b>	Wong, Xavier S	<b>Group Art Unit:</b>	2413
<b>Conf. No.:</b>	7089		
<b>Title:</b>	METHOD AND APPARATUS FOR FLOW CONTROL OF DATA IN A NETWORK		

MAIL STOP ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE**

Applicants note that the allowed claims have a scope defined by their specific recitations rather than by the statement of reasons for allowance. Applicants do not admit that any element or feature, which is listed in the statement of reasons for allowance, limits any allowed claim unless that element or feature is specifically recited in that allowed claim.

Applicants believe that the record of the prosecution as a whole, including Applicants' specification and claims, provides additional reasons for allowance. The Examiner's Reasons for Allowance do not necessarily state all the reasons for allowance or all the details why the claims are allowed and, therefore, should not be used to interpret the scope of the claims in place of the record of the prosecution as a whole.

Respectfully submitted,

Dated: 07-07-2015

/Michael S. Bentley/  
Michael S. Bentley  
Registration No. 52,613  
Attorney for Applicants  
Wall & Tong, LLC  
25 James Way  
Eatontown, New Jersey 07724  
Telephone: 732-542-2280  
Facsimile: 732-542-2283

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	22847912
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Michael Bentley
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	07-JUL-2015
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	16:48:57
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Post Allowance Communication - Incoming	126709-comments-reasons-allowance-7-7-2015.pdf	70865 65866cc4a3ea2f72f54bf190ae23cfa358c0b250	no	1

**Warnings:****Information:**



This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

46363 7590 67/06/2015  
**WALL & TONG, LLC/**  
**ALCATEL-LUCENT USA INC.**  
**25 James Way**  
**Eatontown, NJ 07724**

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	03/23/2005	Richa Malhotra	R Malhotra 7 (LCNT/126709)	7089

TITLE OF INVENTION: Method and apparatus for flow control of data in a network

APP. N. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	FEEV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	10/06/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
WONG, XAVIER S	2413	370-230100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Wall & Tong, LLC

2

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Alcatel Lucent - Boulogne-Billancourt, France

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☒ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies

4b. Payment of Fee(s): (Please first reuply any previously paid issue fee shown above)

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 12-2325 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature

*Patty Giebler*

Date

10-1-15

Typed or printed name

Patty Giebler

Registration No.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11088073			
<b>Filing Date:</b>	23-Mar-2005			
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network			
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra			
<b>Filer:</b>	Gregory J. Murgia/Patty Giebler			
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709)			
Filed as Large Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
Utility Appl Issue Fee	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				960

**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	23661082
<b>Application Number:</b>	11088073
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7089
<b>Title of Invention:</b>	Method and apparatus for flow control of data in a network
<b>First Named Inventor/Applicant Name:</b>	Richa Malhotra
<b>Customer Number:</b>	46363
<b>Filer:</b>	Gregory J. Murgia/Patty Giebler
<b>Filer Authorized By:</b>	Gregory J. Murgia
<b>Attorney Docket Number:</b>	R Malhotra 7 (LCNT/126709
<b>Receipt Date:</b>	01-OCT-2015
<b>Filing Date:</b>	23-MAR-2005
<b>Time Stamp:</b>	11:26:17
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$960
RAM confirmation Number	15740
Deposit Account	122325
Authorized User	GIEBLER, PATTI

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	2015-10-01_Malhotra-7_Issue_Fee_Payment.pdf	372031 f6af1363523a5ebfd27dcfb94ebbe40c679f578	no	1

### Warnings:

### Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30529 78b082f404fecbb4618c1d20e5ddaa8dc9c66690	no	2
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### Warnings:

### Information:

Total Files Size (in bytes):			402560
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

### New Applications Under 35 U.S.C. 111

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### National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

### New International Application Filed with the USPTO as a Receiving Office

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## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/088,073	11/10/2015	9185036	R Malhotra 7 (LCNT/126709	7089

46363 7590 10/21/2015  
 WALL & TONG, LLC/  
 ALCATEL-LUCENT USA INC.  
 12 Christopher Way  
 Suite 105  
 Eatontown, NJ 07724

**ISSUE NOTIFICATION**

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
 (application filed on or after May 29, 2000)

The Patent Term Adjustment is 1967 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Richa Malhotra, Enschede, NETHERLANDS;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit [SelectUSA.gov](http://SelectUSA.gov).

AO 120 (Rev. 08/10)

<b>TO: Mail Stop 8</b> <b>Director of the U.S. Patent and Trademark Office</b> <b>P.O. Box 1450</b> <b>Alexandria, VA 22313-1450</b>	<b>REPORT ON THE</b> <b>FILING OR DETERMINATION OF AN</b> <b>ACTION REGARDING A PATENT OR</b> <b>TRADEMARK</b>
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been  
 filed in the U.S. District Court Western District of Texas on the following

☐ Trademarks or ☒ Patents. ( ☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:20-cv-494	DATE FILED 6/3/2020	U.S. DISTRICT COURT Western District of Texas
PLAINTIFF  WSOU INVESTMENTS, LLC d/b/a BRAZOS LICENSING AND DEVELOPMENT		DEFENDANT  ZTE CORPORATION, ZTE (USA) INC.; ZTE (TX), INC.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 U.S. 9,185,036	11/10/2015	WSOU Investments, LLC
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
--------------------

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director    Copy 3—Upon termination of action, mail this copy to Director  
 Copy 2—Upon filing document adding patent(s), mail this copy to Director    Copy 4—Case file copy